



## Board of Trustees - Study Session

Monday, February 13, 2023 at 5:45 pm

**PLEASE SILENCE ALL CELL PHONE AND ELECTRONIC DEVICES.  
THANK YOU**

### 1. Meeting Information

207 Muegge Way, Bennett, CO 80102

For a live stream of the meeting use the information below:

<https://us02web.zoom.us/j/82969043900>

Meeting ID: 829 6904 3900

Passcode: 166365

One tap mobile

+13462487799

### 2. Administrative Services Department Update

Taeler Houlberg, Administrative Services Director

#### Attachments:

- **Administrative Services Department Update** (TownofBennett\_AdminServicesUpdate\_final.pdf)

### 3. Resolution No. 952-23 - Updating the Town of Bennett's Three-Mile Plan

Resolution No. 952-23 - Updating the Town of Bennett's Three-Mile Plan

Steve Hebert, Planning Manager

#### Attachments:

- **Staff Report Updating the Town of Bennett's Three-Mile Plan** (0\_-\_ThreeMilePlan\_Board\_StaffReport\_02\_13\_23\_FINAL\_\_1\_.pdf)
- **PowerPoint Presentation Updating the Town of Bennett's Three-Mile Plan** (1-ThreeMilePlan\_Board\_Presentation\_02\_13\_23.pdf)
- **DOLA's Three-Mile Plan Overview** (2-3MilePlanOverview\_DOLA.pdf)
- **2021 Comprehensive Plan** (3-2021\_Comp\_Plan\_Town\_of\_Bennett\_Reduced.pdf)

- **2023 Master Transportation Plan** (4\_-\_Town\_of\_Bennett\_Master\_Transportation\_Plan\_-\_Bohannan\_Huston\_Reduced.pdf)
- **2019 Capital Asset Inventory Master Plan** (5-CAIMP\_Final\_Report\_RS\_11.12.19.pdf)
- **2019 Parks, Trails and Open Space Master Plan** (6-Parks\_\_Trails\_and\_Open\_Space\_Master\_Plan\_July2019\_REDUCED.pdf)
- **2019 Arts and Cultural Master Plan** (7-ArtsCulturalMP\_Small\_3\_0.pdf)
- **2011 Regional Trail Plan** (8-Bennett\_Regional\_Trail\_Plan-2011.pdf)
- **2010 Downtown Planning Study** (9-Downtown\_Planning\_Study-final\_DRCOG.pdf)
- **2013 Planning and Environmental Linkages Report** (10-SH79PEL\_Final\_1.pdf)
- **Resolution No. 952-23 - Updating the Town of Bennett's Three-Mile Plan** (Three\_Mile\_Plan\_2023.reso\_updated.pdf)
- **Suggested Motion** (11-suggested\_motion.pdf)

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Contact: Christina Hart (chart@bennett.co.us 303-644-3249 x1001) | Agenda published on 02/08/2023 at 4:08 PM

# DEPARTMENT PROGRESS REPORT



TO: Mayor and Town of Bennett Board of Trustees  
FROM: Taeler Houlberg, Administrative Services Director  
DATE: February 13, 2023  
SUBJECT: Administrative Services Progress Report

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## Management Summary

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The Administrative Services Department was created in January 2022 and encompasses Human Resources, Bennett Arts Council, Clerk and Court and Town Safety.

### Bennett Arts Council

In 2022, the Board approved two major public art projects for the Town of Bennett. The first is a kinetic wind sculpture that will be designed, constructed and installed by artist James Peterson. The artist for this project was selected by a committee that included Town of Bennett staff members, community artists, community partners and Bennett Arts Council members.

The second project is a large mural and five small accompanying murals. The large mural will be painted on the new at-grade water storage tank and the five small murals will be located along the Town's trail system. The theme of these murals is, "Bennett: Where you can spread your wings" It will highlight both the landscape of the Eastern Plains and wildlife from the area. The Bennett Arts Council has reviewed and provided feedback on the designs of these murals.

Grant funding for both of these public art projects has been provided by Adams County.

The 2023 Bennett Arts Council calendar is currently underway. The first event was a workshop partnership between Anythink Bennett, Corridor Creative Arts League and the Bennett Arts Council. The workshop was on January 28, 2023 and highlighted gel painting as instructed by artist Angie Perryman. The next Bennett Arts Council event will take place on February 25, 2023 at the Bennett Community Center and is another partnership workshop. Those wishing to attend can sign up on the Anythink Bennett website.

### Clerk and Court

As reported by the Town Clerk, the Records Trailer was completely cleaned out and all documents were transported to the Town Hall Records Room after being scanned into the Town's electronic storage software RMMI/Paper Vision.

In addition, the Town Clerk is currently working with all department heads to ensure records are retained properly and in accordance to all legal expectations.

Several Bennett Municipal Code updates took place in 2022. Below is a list of those updates:

- General - Town Manager title updated throughout entire code;

- Chapter 7 – general updates to health and sanitation;
- Chapter 8 – general chapter updates and update to Model Traffic Code;
- Chapter 9 – creation of animal control specific chapter;
- Chapter 11 – update to clarify language;
- Chapter 16 – school land dedication update;
- Chapter 16 – telecommunications updates;
- Chapter 16 – general updates to Article I and II; and
- Chapter 18 – update to clarify language.

### **Human Resources**

In 2022, the Administrative Services Department focused on several process improvements to bring greater efficiency to department. Updates were made to the following project processes in order to streamline tasks and complete tasks in a timelier manner:

- Onboarding and exit procedures and checklists;
- Annual performance reviews;
- Open enrollment; and
- Document organization and record keeping.

### **Town Safety**

In early March 2022, the Town Safety Officer began working with Adams County Office of Emergency Management to bring Community Preparedness classes to the Town of Bennett. This service is at no cost to the Town and Adams County OEM only requests the Town’s assistance with communications, venue selection, general logistics and meeting any special accommodation requests. Classes in 2022 and 2023 included the following items:

- Basic Emergency Preparedness on August 30, 2022;
- Travel Preparedness on October 20, 2022;
- Pet/Animal Preparedness was scheduled for November 2022 and was canceled due to weather and rescheduled to February 23, 2023;
- Health and Medical Preparedness was scheduled for January 19, 2023 and was canceled due to weather and will be rescheduled to a later date;
- Understanding Emergency Communications/Messaging on March 23, 2023;
- Personal Property/Infrastructure Preparedness on April 27, 2023;
- Financial/Administrative Preparedness on May 16, 2023;
- Youth Preparedness on September 21, 2023; and
- Senior Preparedness on October 12, 2023.

The Town Safety Officer completed the necessary 40 credit hours for the ADA Coordinator certification and successfully passed the ADA coordinator exam in June 2022. Under Title II of the ADA, the Town is required to have a certified ADA coordinator.

In September 2022, CIRSA completed their compliance evaluation for the annual Loss Control Audit and the Town received a score of 108. The score of 108 includes 100% compliance and eight bonus points.

On October 25, 2022, the Town Board approved the purchase of 14 AED units through Cintas. Ten of the AED units are mobile and are located in seven of the Town’s vehicles. Additionally, there are fixed

units in Town Hall, Shared Services Building, NOMCOM and the Community Center. All units are the Zoll 3 AED units and include the LifeReady 360 software tracking.

The Board of Trustees approved the bid from Mile High Accessibility Consultants to create an ADA Self Evaluation and Transition Plan for the Town in order to properly review and evaluate policies, programs or activities under Title II, that may present challenges to people with disabilities or that may be out of compliance with the requirements of the ADA. The Self Evaluation and Transition plan is scheduled to present to the Town Board for adoption in December 2023.

The Colorado East I-70 Corridor Public Safety Group continues to meet every other month. This meeting group discusses deployment, mobilization and tactical operations of Adams County, Arapahoe County, Elbert County, Kit Carson County and Lincoln County in response to emergencies.

Monthly safety trainings and JSAs are ongoing with staff. These trainings are important to improve Staff's awareness around safety not just at work, but at home as well.

Additional Town Safety events planned for 2023 include:

- Lifeline Screening on February 13, 2023 at the Community Center;
- Community Blood Drives scheduled for March 30, 2023 and October 12, 2023;
- Quarterly fire drills;
- Coordination with Adams County OEM Office, Arapahoe County OEM Office, Bennett/Watkins Fire District and the Town to train on evacuation and emergency simulation exercises.

## Projects Status & Milestones

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The Town is currently in the process of hiring for the following positions:

- Permit Technician;
- Planning Manager; and
- Utility Operator I - D.

TO: Mayor and Board of Trustees  
FROM: Steve Hebert, Planning Manager  
DATE: February 13, 2023  
SUBJECT: Resolution No. 952-23 Updating the Town of Bennett's Three-Mile Plan

## Background

The Municipal Annexation Act of 1965 requires the Town have in place a three-mile plan before considering any annexations. Although there are no pending annexations, once the plan is adopted, it should be updated at least once a year. Resolution No. 952-23 updates the existing Three-Mile Plan.

The reference to "three miles" relates to the requirement in the Municipal Annexation Act that no annexation may extend the Town's boundary more than three miles in any direction in any one year. The State of Colorado Department of Local Affairs (DOLA) describes a three-mile plan as:

*"a long range planning opportunity for municipalities to consider where they want to annex, how they will provide service in the newly annexed areas, and how they will sustain adequate levels of service throughout the rest of the municipality. It ensures that the municipality will annex land only when it is consistent with pre-existing plans for the surrounding area. The statute requires a three-mile plan to generally describe the proposed location, character and extent of future public utilities and infrastructure (e.g., streets, bridges, parks, playgrounds, aviation fields, waterways, open spaces and other public grounds) as well as proposed land uses for the area."*

DOLA's complete overview of the three-mile plan concept is attached.

The Town of Bennett has enacted, adopted and approved various land use, planning and transportation documents over the last several years. Each of these planning documents gives the Board of Trustees guidance on how the town might grow and how new development, if any, can be served. Specifically, those plans are:

1. 2021 Comprehensive Plan
2. 2023 Master Transportation Plan (newly adopted since the last Three-Mile Plan update)
3. 2019 Capital Asset Inventory Master Plan
4. 2019 Parks, Trails and Open Space Master Plan
5. 2019 Arts and Cultural Master Plan
6. 2011 Regional Trail Plan
7. 2010 Downtown Planning Study
8. 2013 Planning and Environmental Linkages Report

## Staff Findings and Recommendation

Staff recommends adopting Resolution 952-23, which incorporates the previously approved planning documents to collectively serve as the updated Town of Bennett Three-Mile Plan. Adoption of this resolution does not approve

or deny any specific annexation request, but merely sets the stage for reviewing and considering the requests as they come forward.

## Attachments

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1. Staff PowerPoint Presentation
2. DOLA's Three-Mile Plan Overview
3. 2021 Comprehensive Plan
4. 2023 Master Transportation Plan
5. 2019 Capital Asset Inventory Master Plan
6. 2019 Parks, Trails and Open Space Master Plan
7. 2019 Arts and Cultural Master Plan
8. 2011 Regional Trail Plan
9. 2010 Downtown Planning Study
10. 2013 Planning and Environmental Linkages Report
11. Proposed Board of Trustees Resolution No. 952-23

# Update to the Town of Bennett Three-Mile Plan

Town of Bennett Board of Trustees

February 13, 2023

Steve Hebert, Planning Manager





# Why a Three-Mile Plan and What is it?

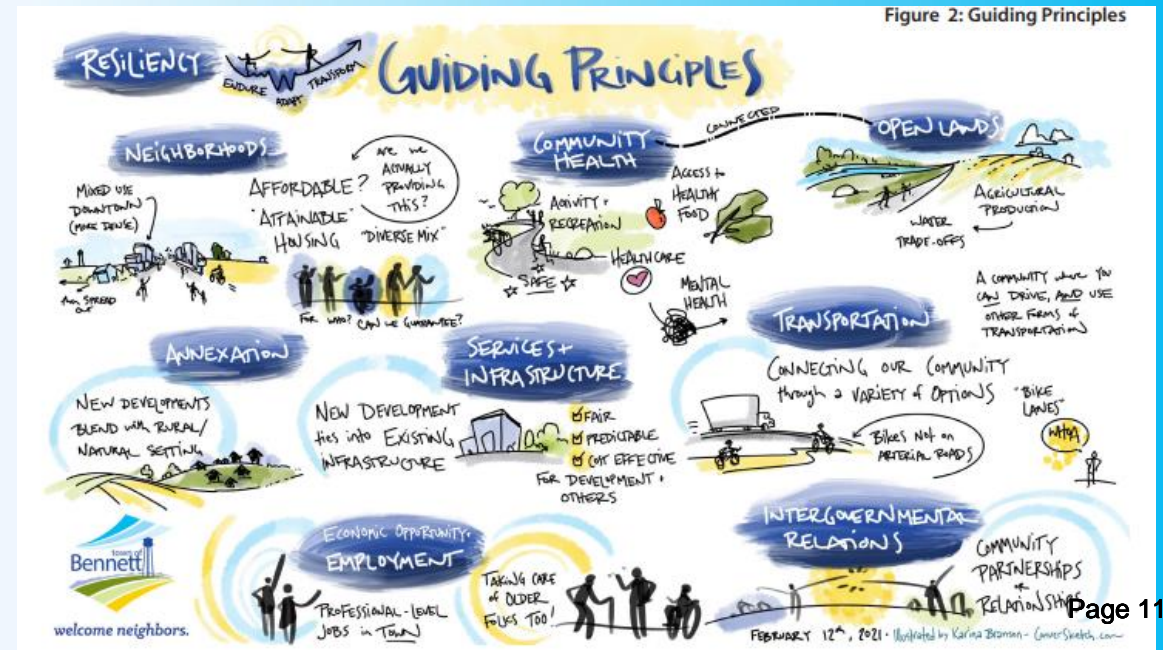
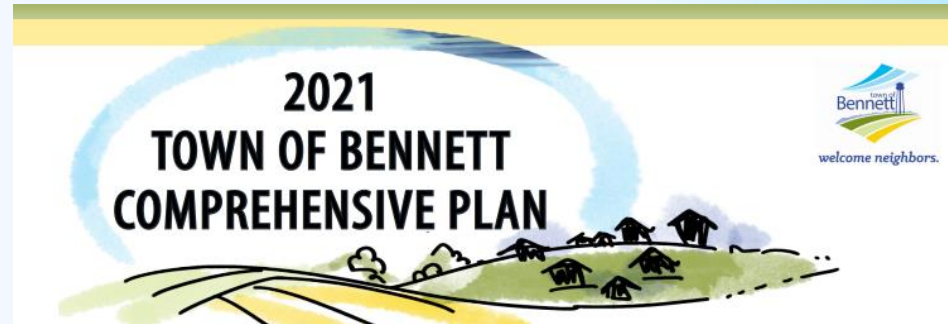
- Municipal Annexation Act of 1965 requires the Town have in place a three-mile plan.
- The reference to “three miles” relates to the requirement in the Municipal Annexation Act that no annexation may extend the Town’s boundary more than three miles in any direction in any one year.
- A long range planning opportunity to consider where we might want to annex, how we will provide service in the newly annexed areas, and how we will sustain adequate levels of service throughout the rest of the town.
- It is not a commitment to annex property, but rather a guide if annexation is to proceed.

# What We Consider as Our Three-Mile Plan

A compilation of guiding documents, already in place:

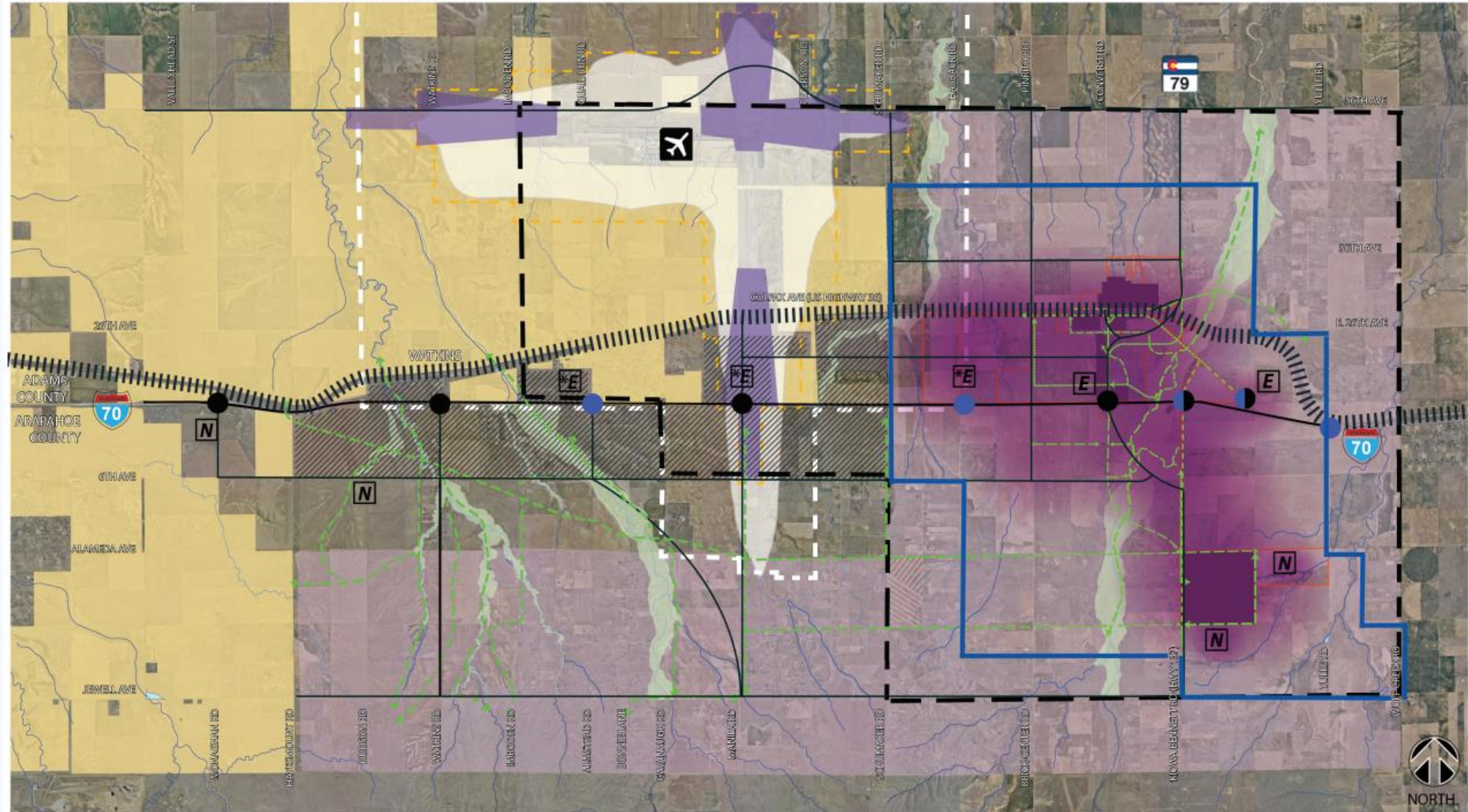
1. 2021 Comprehensive Plan
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5. 2019 Arts and Cultural Master Plan
6. 2011 Regional Trail Plan
7. 2010 Downtown Planning Study
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# What We Consider as Our Three-Mile Plan

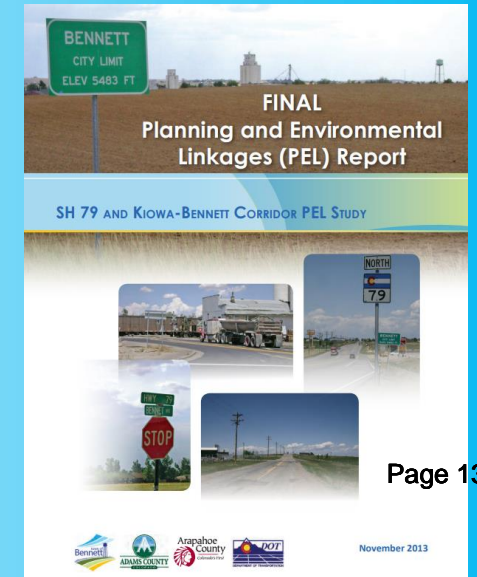
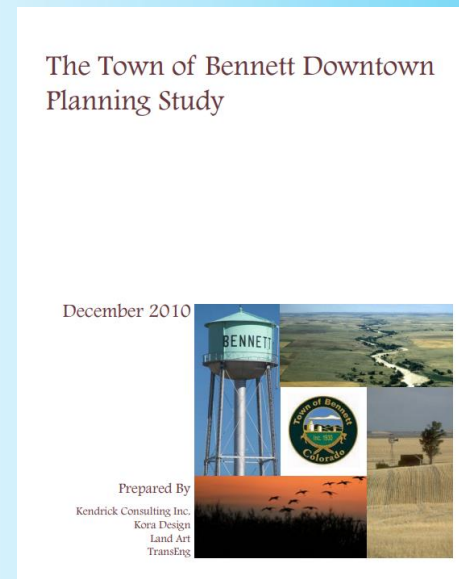
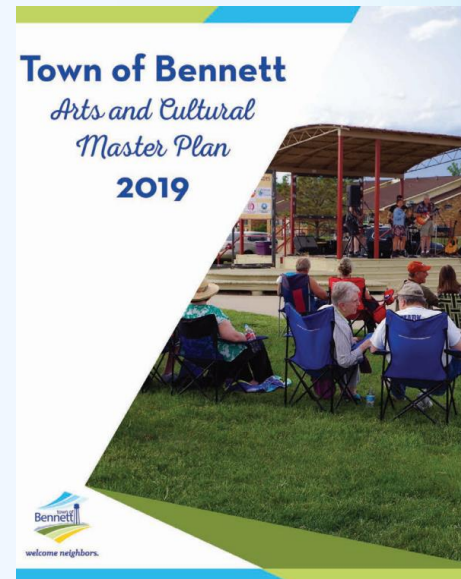
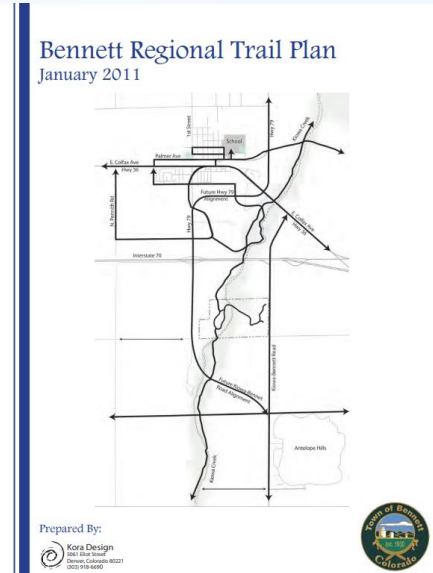
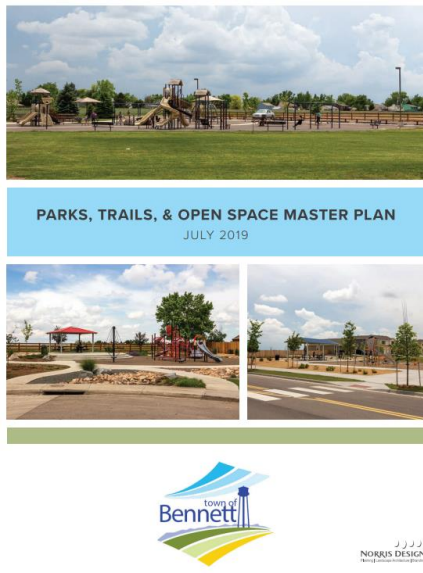
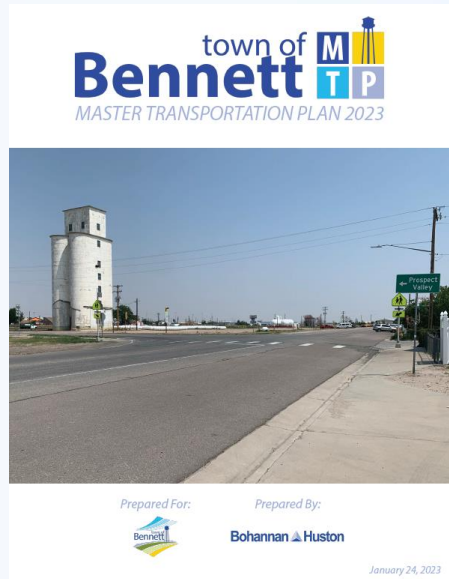


# What We Consider as Our Three-Mile Plan

PREFERRED PLANNING PRINCIPLES MAP



# What We Consider as Our Three-Mile Plan



# Staff Recommendation

Staff recommends the Board of Trustees adopt Resolution No. 952-23, which states:

Section 1. The Plans set forth in Exhibit A, as the same may from time to time be amended, shall collectively be considered the Town of Bennett's Three-Mile Plan for purposes of C.R.S. § 31-12-105(1)(e).

Section 2. The Three-Mile Plan shall be reviewed and revised as may be necessary or advisable, and no annexation shall be completed by the Town unless the property to be annexed is included within the area generally addressed by the Plans. Additional plans may be added to the Three-Mile Plan from time to time, as they may be developed and adopted by the Town.



# STATE OF COLORADO DEPARTMENT OF LOCAL AFFAIRS

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## THREE-MILE PLAN

### BACKGROUND

In 1987, the Colorado legislature made substantial changes to the state's annexation law. One of the more significant changes limited municipal annexations to no more than three-miles beyond a current boundary line in any given year, except under special circumstances. The legislature also required that a municipality adopt an annexation master plan for the three-mile area (or three-mile plan, as they are commonly known) prior to the completion of any annexation.

### BEFORE YOU ANNEX

Prior to the final adoption of an annexation ordinance within the three-mile area, the municipality must have in place a three-mile plan. This plan must be updated at least once a year.

### WHAT IS A THREE-MILE PLAN?

The three-mile plan is a long range planning opportunity for municipalities to consider where they want to annex, how they will provide service in the newly annexed areas, and how they will sustain adequate levels of service throughout the rest of the municipality. It ensures that the municipality will annex land only when it is consistent with pre-existing plans for the surrounding area.

The failure to plan specifically for the physical growth of a municipality can result in haphazard annexations that prove expensive to the municipality annexing the land, the county in which the land is located and the neighboring communities.

The statute requires a three-mile plan to generally describe the proposed location, character and extent of future public utilities and infrastructure (e.g., streets, bridges, parks, playgrounds, aviation fields, waterways, open spaces and other public grounds) as well as proposed land uses for the area. The master or comprehensive plan takes into account all land that is functionally related to the growth of the municipality, not just land within three miles of the municipal boundary. If the master or comprehensive plan covers these elements required for a three-mile plan, it will suffice as the three-mile plan, and many municipalities have adopted it as such. As noted above, the three-mile plan must be reviewed and updated annually.

In contrast to an annexation impact report, which is site specific to individual annexations, the three-mile plan takes a broader approach to the annexation and development of land. No plat of a subdivision of land within such an area may be filed or recorded until approved by the municipal planning commission. A proposed annexation should be consistent with the municipality's master plan and three-mile plan, in addition to other policies.

On a separate, more political point, when citizens hear the term "three-mile plan," some may jump to the conclusion that the municipality is intending to force everyone within three miles to annex. It is important to educate the citizens of the municipality but also the citizens in the county on this point. Generally speaking, municipalities cannot force landowners to annex, nor can landowners force municipalities to annex them.

## **WHAT IF WE DON'T HAVE AN UPDATED THREE-MILE PLAN?**

The failure to have a plan prior to the completion of an annexation could open a municipality up to litigation. Colorado law limits those who have a right to challenge annexations to property owners within the annexed area, the county(ies) in which the land is located and neighboring municipalities within one mile. In areas with growth pressures, it is increasingly likely that these three groups will use the lack of a plan as grounds for invalidating the annexation.

State law does not specifically state that an annexation must be in compliance or conformity with a municipality's three-mile plan, though it is likely that a court would require a legislative finding that such compliance or conformity exists. If the annexation is accompanied by a proposed planned unit development, the PUD must be in general conformity with the municipality's master plan, irrespective of the three-mile plan (CRS §24-67-104(1)(f)). Neighbors of the project have the right to challenge the PUD, even though they might, in turn, challenge the annexation.

## **STATUTES FOR REFERENCE**

**Three-Mile Plan:** 31-12-105(e)  
**Municipal Annexation Act of 1965:** 31-12-101, et seq.  
**Annexation Impact Report:** 31-12-108.5



# 2021 TOWN OF BENNETT COMPREHENSIVE PLAN



## INTRODUCTION

The Town of Bennett, Colorado is a rapidly evolving community on the high plains of Eastern Adams and Arapahoe Counties. Bennett residents enjoy the pleasures of small-town living, clean air, room to breathe and welcoming neighbors. While the Town's incorporated area is currently 5.9 square miles, Bennett is the shopping and service hub for over twenty thousand residents along the eastern Interstate 70 (I-70) corridor. Our residents have a unique mixture of rural and urban highlights, surrounded by ranchland and farmland; but only 25 miles from Denver and the alpine recreation of the Rocky Mountains only an hour's drive away. The major transportation network creates a transportation nexus ideal for influential development and economic vitality.

Bennett's community leaders are visionary and willing to take bold steps to secure the Town's future. As the Town continues to attract significant land development interest, it recognizes the guiding principles for public and private land development need to be updated to reflect our community's vision and regional planning interests. In the 2015 Comprehensive Plan, the Town identified a 91.4 square mile "**Area of Planning Interest**." While this planning area continues to influence what happens in Bennett, this 2021 update redefines the surrounding planning areas. The amended "**Area of Planning Influence**" is defined as an area that influences the Town's ability to provide services and grow; but, it does not align with annexation interests. More specifically, the Area of Planning Interest includes unincorporated infill properties within Bennett, contiguous properties and properties within a logical service area, ideal for future annexation for the Town. The Area of Planning Interest is further categorized into three focus areas for potential annexation. The areas are number based on the continuity for infrastructure, resources and services for the community. Each area describes the Town's primary vision for key expansion and includes specific goals and policies that will guide future planning and development in these areas. The Area of Planning Interest reflects a 30.2 square mile area for likely near-term development.

Bennett's plans for growth are matched by its objective to effectively master plan infrastructure and introduce a portfolio of water resources, including renewable and reuse water supplies. The prospect for expansion associated with the Town's recently adopted Capital Asset Inventory Master Plan is a fundamental tenet of this comprehensive plan.

Bennett is committed to responsible planned development; economic vitality; high-quality public services, resilient infrastructure, programs and policies; and the continued expansion of a healthy community. The 2021 Town of Bennett Comprehensive Plan is a focused update of the Town's 2012 and 2015 Comprehensive Plans. The updated 2021 Comprehensive Plan process involved master planning and public engagement efforts, including:

- The recently modernized Town of Bennett website, providing a page dedicated to master planning and guiding documents for public transparency.
- An update to the Town's social media and public information approach to provide details on upcoming meetings, meeting summaries, draft documents, and public comment forums.
- Adoption of the Capital Asset Inventory Master Plan (CAIMP), which lays the groundwork for the supporting infrastructure and resiliency of our community.
- In-person Engage.Shape.Build public forums with one-on-one conversations, educational presentations and community input boards.
- Adams County, Arapahoe County and Colorado Air and Space Port master planning efforts.
- Work sessions with the Adams County and Arapahoe County planning staff, the Bennett Planning Commission and Town Board.
- Public hearings before the Bennett Planning Commission and Town Board.

# STRUCTURE AND USE OF THE PLAN

The 2021 Town of Bennett Comprehensive Plan Update is structured around nine planning themes - Neighborhoods, Economic Opportunity, Open Lands, Transportation, Services and Infrastructure, Community Health, Annexation, Community Partnerships and Resiliency. In addition, there is defined Area of Planning Influence and a focus on our Area of Planning Interest.

Each planning theme contains an achievable goal, key strategy, catalyst action, and one or more policy directives:

- An **achievable goal** is a statement of an ideal condition that can be accomplished. An achievable goal is supported by one or more key strategies, catalyst actions, and/or policy directives;
- A **key strategy** is a statement of a specific approach directed toward the achievement of a goal;
- A **catalyst action** is a statement of an initiative that will enhance the success of reaching an achievable goal. The Plan Monitoring section (page 20) identifies the short-term, mid-term, and long-term time frames established for the implementation of catalyst actions; and
- A **policy directive** is a statement consistent with a strategy to prescribe, restrict or otherwise guide or direct action.

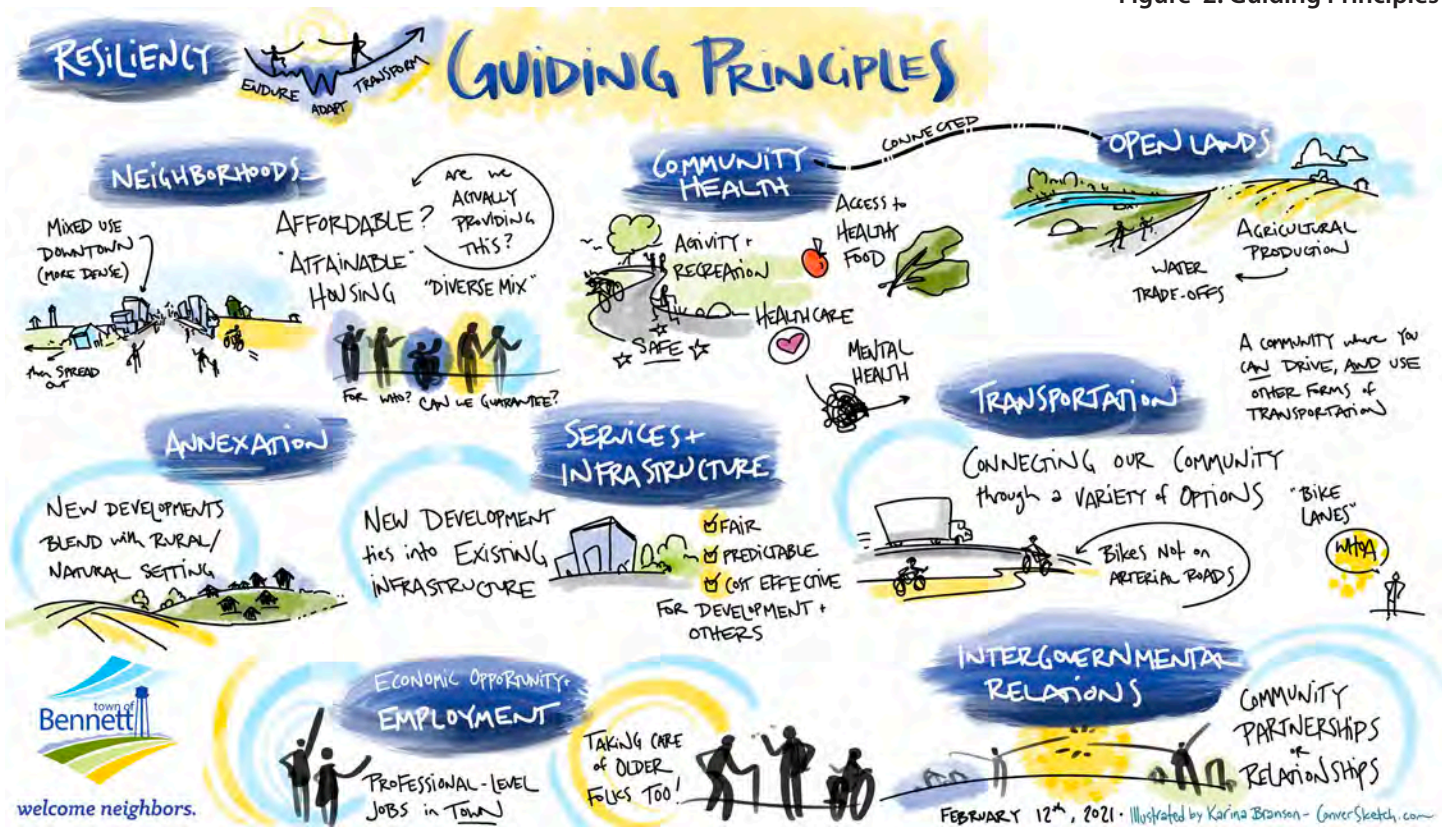
This plan is intended to provide elected and appointed officials, residents, business owners, landowners, project applicants, community partners and other stakeholders a broad policy tool for guiding decisions concerning growth and future land uses. As the Area of Planning Influence is regional in scale, plan implementation will require intergovernmental coordination and an additional level of public policy guidance and in-depth study. The focus areas, achievable goals, key strategies, catalyst actions and policy directives detailed within this document serve as the first generation of what is anticipated to be an ongoing, dynamic planning process. To further support the nine planning themes, the Board adopted a vision statement (Figure 1) and twelve guiding principles, as shown on page 3 (Figure 2), to establish our core values or standards to guide decision-making now and into the future.

Overall, this plan has been created to give successive public bodies a common framework for addressing land-use issues and set forth policies that foster a distinctive sense of place unique to Bennett. The plan is concluded by a summarized culmination and desired outcome accountability and tracking system within the plan monitoring section of this document.

Figure 1: Vision Statement



Figure 2: Guiding Principles



1. A comprehensive, safe and efficient transportation system that provides for all forms of travel, including vehicular, bicycle, pedestrian and public transit.
2. Develop neighborhoods that have a mix of land uses and densities with easy access to parks and open space, schools, cultural facilities, places of worship, shopping and employment.
3. Development of a Town Center in the heart of Bennett that will serve as our "downtown" offering easy access to shopping, dining, entertainment and employment.
4. Encourage a high-quality and diverse mix of housing, available to people of different backgrounds, income, age, abilities and all phases of life.
5. Commit to being good partners with other community agencies and organizations through; collaboration, leveraging funding, needs planning for future growth. Emphasize local relationships with the School, Library, Recreation, and Fire Districts.
6. Foster an attractive community that retains residents in all stages of life through attainable housing, continuing education and a robust job market.
7. Preserve and protect natural open space and other areas that have environmental significance, with an emphasis on flood hazard; water value; natural mineral wealth; or are prime open space locations.
8. Value the development of a healthy community with access to healthy foods, physical activity, recreation, healthcare and safe neighborhoods.
9. The Town strives to be resilient by providing a framework to understand and measure its capacity to endure, adapt and transform through economic, social, and physical stresses.
10. Design new developments in a manner to blend with the rural setting and preserve natural features and areas designated for agricultural production.
11. Contiguous land development pattern that promotes connected infrastructure and services in line with the capital asset inventory master planning documents.
12. Both land and infrastructure development decisions will be predictable and provide equitable cost-sharing in line with the Town's master plans.

# COMMUNITY PROFILE

The Town of Bennett incorporated in 1930 and has steadily grown into a thriving and self-sustaining community with an excellent public school system and a growing hub for goods and services along the eastern I-70 corridor. The Town boasts over twelve miles of walking and biking trails, numerous parks, a community center, a recreation center and over 200 acres of protected open spaces. Currently, there are over 1,200 acres of land approved for development within the Town boundaries. Over half of that land being located within an Enterprise and Foreign Trade Zone, making Bennett a rising community with many attractive attributes for land developers and growing businesses.

Like many communities in rural Colorado, Bennett has an agricultural history and culture and has remained relatively small. However, since 2015, it is estimated the population has grown 33%, from 2,587 to approximately 3,200 persons by 2021 (Based on Water Account Data). The primary contributor to this increased population was the approval of new residential developments and a high demand for quality housing. In addition, two major annexations were approved during that period. Developing the Capital Asset Inventory Master Plan was a major policy change resulting in the expansion of the portfolio of water resources and identification of major infrastructure needs, providing the Town with the

capacity to accommodate development and responsibly absorb the impacts of growth. The below demographic information chart was provided by The Retail Coach, an economic development consulting firm.

While the incorporated 5.89 square miles of the Town is relatively small, Bennett is the service hub for the surrounding rural region. The total population of the trade area is currently over 20,000 and still growing. This population supports some of the nation's largest retail chains in Bennett, including King Soopers, Tractor Supply and Love's. Over 112 local business owners have called Bennett home for multiple generations. Bennett continues to cultivate a business-friendly community through our code and development processes. A stress-free commute also provides a significant labor shed of over 1.7 million workers within a 50-mile (approximately one-hour) radius, Figure 3. This, along with various workforce training and education programs, underline the Town's strong workforce pipeline available for economic vitality and expansion.

Visionary leaders in Bennett understand the importance of balancing "green spaces," unpopulated areas that help humans connect to their environment, with a built community that plays into its residents' overall happiness and mental well-being. Overall, the Town is committed to a community built with small-town character that is happy, connected, safe and innovative with the opportunity to live well and thrive.

**Table 1: Community Demographic Profile**

Population (2020 Census)	3,017
Population (2026 Estimate*)	6,694
Population (2010 Census)	2,308
Population Growth 2010-2020	24%
Trade Population (Service Hub Area*)	20,644
Median Age*	36.12
Median Household Income*	\$80,093
Households*	951

**Table 2: Commute Times**

Colorado Air and Space Port	10 Minutes
Denver International Airport	20 Minutes
Downtown Denver	25 Minutes
Denver Tech Center	35 Minutes
Rocky Mountains	50 Minutes
Hospital	20 Minutes

\*Data Provided by The RetailCoach, August 2021.

**Figure 3: Radius Map**



# SUMMARY OF PROJECTED GROWTH

The purpose of this section is to support the Town's projected growth by providing population and land use density projections over a long-term period as a basis for community resilience, economic indicators, mixed housing products and preservation of open lands. The research has been multi-faceted, first compiling and analyzing zoning data to project land uses and densities within the Town boundaries, assembling current population data unique Bennett to establish a population growth rate, and absorption assumptions to project up to date timelines.

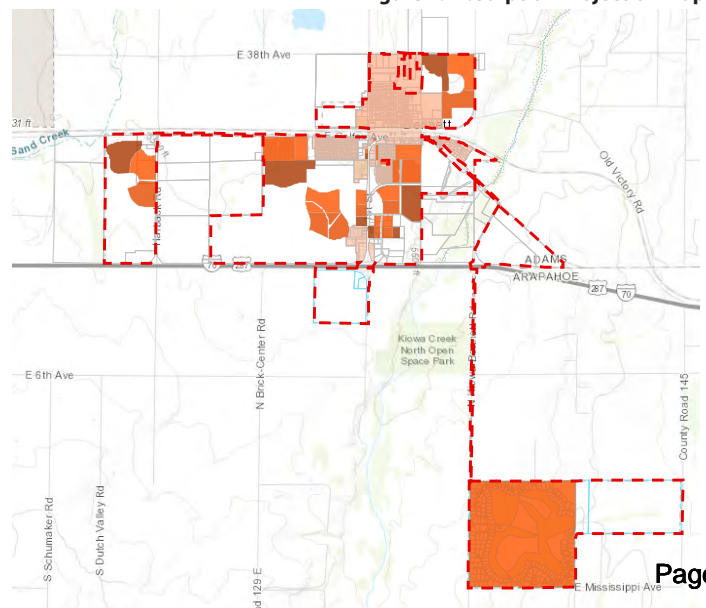
It is estimated that the Town currently has 1,200 acres of undeveloped land potential. These properties were identified through planning records, current zoning maps, landowner discussions, active applications and embedded in the Capital Improvements Planning and Development Project Status modules hosted in ArcGIS Online and updated on a case-by-case basis. The data was separated into residential versus non-residential development. In order to make comparable estimates for various development types, the projections are now assessed through the Single-Family Equivalent (S.F.E.) method, which considers the size of the property and the number of bedrooms in residential properties and restrooms in commercial properties to determine the estimated equivalence of impact of that proposed development. At the time of the CAIMP development, one S.F.E. was equivalent to 2.71 persons per household. Therefore, developments with more than one S.F.E. are allotted proportionally more impact in each tier. This methodology provides the framework for estimated equivalency in mixed-use products and growth projections, all of which is critical to future water planning for the Town's renewable water project.

Next, the unique Bennett population summary was analyzed using data from the State Demography Office, input from the State Demographer's staff, the relevant Census data, and various discussions with the CAIMP team. Through this process, the potential for residential and commercial growth is significant in the Town based upon the property owner and developer interviews regarding the current market interests. The anticipation for growth is a result of three major contributing factors seen across the State. The first factor is the current and increasing population growth in the State, the second is the expansion and population increase in Metro Denver, and last the increase in housing prices that pushes buyers into surrounding areas such as Bennett. Bennett's residential market has been proven by prominent home builders with steady housing absorption rates over the last three years.

Finally, the absorption data was compiled through the developer interviews to determine and verify the information compiled in Geographical Information System (G.I.S). All absorption projections are based upon the developer's best estimate of how the market will respond. In the past ten years, all of Bennett's residential home market has been small infill until 2017 when LGI began to construct new homes and platted 250 new home sites. At the end of 2020, approximately 80% of these homes had certificates of occupancy. In 2021 the Town has five residential developments in various stages of construction with 948 platted lots and issued 129 certificates of occupancy. The 2021 absorption rate equates to approximately 14 SFE's per month.

The growth rates proposed were reviewed and vetted by the technical team and the Town leadership to determine Bennett's appropriate projected growth rate. Updating the growth projection models annually will be essential to the community's asset management and planning needs. The creation of CAIMP, the new G.I.S. framework, gives staff and consultants the ability to map land planning within an infrastructure model providing streamlined results for development and population projections. At the time of CAIMP, the Town's population is expected to reach 12,581 persons by the year 2029, which equates to approximately 4,358 S.F.E.'s (residential, industrial and commercial). The desired employment opportunities aligned job and housing expansion to reflect balanced growth in Bennett's future, reinforce one of the core concepts of the plan, which calls for neighborhood and employment centers with ample opportunities to live, work, and play locally.

Figure 4: Absorption Projection Map





Bennett is committed to providing a healthy, happy and safe lifestyle for all. Our capacity to plan and guide development through recreational activity, access to healthy food and healthcare initiatives reflect this commitment. On August 13, 2019, the Town adopted a robust Parks, Trails and Open Space Master Plan. This plan established a vision for the Town over the next ten years, giving the tool necessary to manage and enhance existing parks and plan for future parks, open spaces and trail connections throughout the community. This visioning process was an opportunity to update existing Town plans, including the previous 2009 Parks, Trails and Open Space Master Plan. Bennett has developed a multi-use trail that extends from the residential core of the community to the local shopping center, enabling safer pedestrian and bicycle grocery trips as well as improved

railroad crossings through the main HWY 79 and 36 intersection. Additionally, the primary grocer located within the incorporated Town, coupled with the relative population of Bennett, makes its progress in providing accessible healthy food options impressive.

An overarching objective for Bennett’s community health is to increase residents’ opportunities to make healthy food, mental health awareness and physical activity choices by implementing sustainable policies and practices for the built environment. As such, there is a strong emphasis on community health as an underlying principle to the Town of Bennett Comprehensive Plan. In particular, the Board has identified the desire to enhance community health by promoting healthcare recruitment strategies and incentives, as guided by the economic development assistance policy. Healthcare is highly recognized as a critical quality of life factor impacting the retention and attraction of Bennett residents and the workforce. Furthermore, healthcare is more important than just the services they provide. Access to high-quality, affordable health care institutions affects the workforce and community resiliency. Healthy, longer-living workers are more productive and happier. The more productive and happier your workforce is, the more they are likely to stay and invest in their community.

**Achievable Goal:** To promote healthy eating and active living.

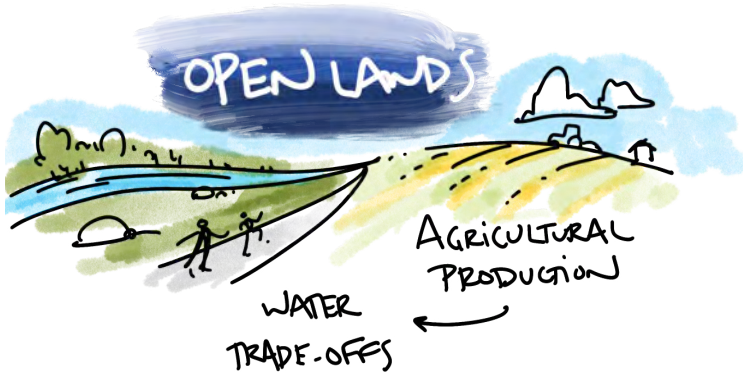
**Key Strategy:** Increase public health resources through partnerships with organizations such as: Tri-County Health Department, LiveWell Colorado, the Colorado Health Foundation and others as a model healthy community initiative.

**Catalyst Action:** Conduct an assessment of local and regional plans adopted by the Town, Adams and Arapahoe County and other regional governing bodies to link trail systems and open space.

**Policy Directive:** The Town shall ensure the creation of a built environment that supports healthy options for physical activity and good nutrition as foundations for sustainable health.

**Policy Directive:** The Town shall implement recommendations from the 2019 Parks and Open Space Master Plan to provide for the recreational and tourism needs of residents and visitors to encourage other sports or other recreational activities along with the commercial facilities supporting such uses.





The bulk of the Planning Area of Interest consists of open lands, characterized by sizeable agricultural landholdings with pockets of very low density, large lot residential areas. The area also includes four major (one hundred year event) floodplains that serve as natural drainage and riparian corridors. During the May 2021 Engage.Shape.Build public input meeting, it was evident that our residents place a high value on their environment and strongly desire the preservation of a rural lifestyle.

Unique among other communities in Colorado, Bennett’s availability of open land creates a promising impact for development along with the preservation of the natural environment that will later define the physical character and image of the rural community. The extensive network of trails, open space corridors and conservation areas weaves through the fabric of each development application, connecting with parks, neighborhoods, schools, community facilities, employment centers and activity districts. Identifying rural preservation areas within new developments helps the Town assure residents access to a range of recreation opportunities and benefit from the protection of sensitive environmental habitats, water bodies and view corridors. Additionally, it is duly noted that preservation of open space provides a water trade-off, as these land areas will drastically reduce the overall water impact. Overall, this open lands effort connects residents to regional trails, neighboring jurisdiction open space and water sustainability for planned density developments. Since 2015, the Board of Trustees has taken several steps that aid in preserving open space. First, by the Code

adoption of land dedication requirements. Dedication requirements at the time of subdivision allow for the dedication of vacant land for the purposes of public parks, trails, open space, public facilities or recreational purposes. Next, by taking ownership over Bennett Regional Park and Open Space containing 193 acres. The property was previously a privately owned 18-hole golf course named “Antelope Hills” and now supports Recreation, Relatively Natural Habitat and Open Space conservation values. In particular, the property provides public access to open space and for outdoor recreation and trail connections from the Antelope Hills Community to the Kiowa Creek North Open Space and surrounding rural areas for the use and enjoyment of the general public. In addition, since taking ownership of the property in April 2013, all of the concrete trail systems from the golf course have been removed, and replantation of early-seral plants and weeds mitigation to restore historical conditions of a healthy short-grass prairie system have been completed. As a result, this well-established conservation easement now protects all 193 acres of Bennett Regional Park and Open Space. Finally, the Town recently entered into an option to purchase agreement to preserve approximately 156 acres of native creek habitat within the floodplain, serving as a natural drainage and riparian corridor within the Northern Kiowa Creek Preserve.

In summary, while the Town has made significant strides in the preservation of open space, it is recognized that in order to maintain the rural character of the area, subdivided lots created should be screened, clustered or distributed in such a manner as to minimize visual and environmental impacts and maximize the use of existing roads and utilities, and that continued efforts for public acquisition of open space property should be prioritized whenever possible.

**Achievable Goal:** To protect and preserve the rural nature of open lands.

**Key Strategy:** Identify parcels with the Focus Areas for potential open space acquisition.

**Catalyst Action:** Work with Arapahoe County’s Open Space Master Planning efforts to redefine their North Open Space parcel and identify the trail linkage program for connectivity with the Town’s trail system.

**Policy Directive:** The Town shall encourage future open space acquisitions and identify preservation efforts, as a way to protect their natural values.





The Summary of Projected Growth (page 5) notes demand in the next ten years for 4,358 additional S.F.E.'s within the Area of Planning Interest. Providing a balanced mix of housing opportunities in the Town will continue to be a focus of planning efforts in each development. Ensuring that a wide range of incomes, age groups and lifestyle choices are accommodated, will reinforce the Town's desire to be a place in which to live and work, inclusive of all.

A guiding principle of this plan is to develop neighborhood centers that allow for a mix of land uses with increases in densities, which is a departure from the historical growth pattern in the corridor. Benefits of concentrated mixed-use development include an efficient land use pattern that increases transportation choices, reduces energy consumption, promotes water conservation and offers more opportunities for social interaction. In addition, the Town will pursue a variety of strategies to maintain the affordable housing stock that currently exists comparable to the Denver Metro area.

Neighborhood centers are characterized by a core of civic, educational, entertainment, office and retail uses that support surrounding residential uses of varying types and densities. Each center's development will vary in density and intensity from large master-planned neighborhoods on the within the Area of Planning Interest to smaller in-fill projects within the Town's core.

In 2021, the Town commenced draft updates to its Chapter 16 Land Use Code, inclusive of zoning regulations and the adoption of interactive Zoning and Development maps. To foster new and in-fill development, the interactive maps and revamped applicants guides now provide real-time information to developers and are intended to offer transparent and streamlined development process.



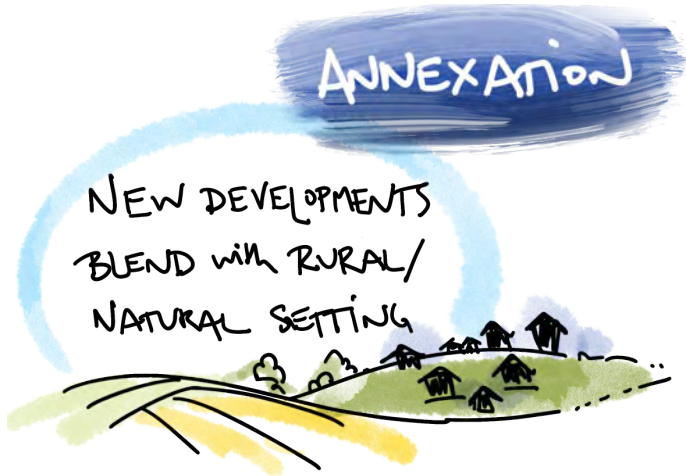
**Achievable Goal:** To provide diverse housing types at various densities and a mix of appropriate land uses.

**Key Strategy:** Foster innovative infrastructure practices, site planning, and mixed-use development patterns.

**Catalyst Action:** Prepare design guidelines and transition the Town's existing PD's and outdated zoning districts into one of the new zoning districts.

**Policy Directive:** The Town shall encourage master-planned, mixed-use development in concentrated centers.





Annexation Focus Areas 1, 2, and 3 correspond to the three-mile annexation boundaries;

- The timing of annexation in each Focus Area will be dependent on the ability to provide infrastructure and services to the property. Conversely, resources underlying lands rich in water supply, open space and/or other Town desired resources, may provide an opportunity for prioritization of annexation; and
- Through various planning efforts, the Town will seek to strike a balance among the many competing demands on land by creating development patterns that are orderly and rational, provide the greatest benefits for individuals and the community as a whole and avoid nuisance conflicts between land uses.

A fundamental principle forming the basis for the Town's annexation policy is that annexation is an agreement between a willing landowner and a willing local government. Therefore, the Town and property owner should enter into a pre-annexation agreement as a precursor to any annexation. Pre-annexation agreements establish the conditions of annexation and provide the Town and property owner with a set of negotiated obligations upon annexation.

Three annexation growth areas are outlined in Figure 5 below, and referenced herein as Focus Areas, all within the Planning Area of Interest. These growth areas are intended to provide guidance, not an obligation, or priority for future annexation by the Town or landowners. In general, these are areas that may be candidates for annexation. Additional considerations include:

- With minor exceptions, Colorado annexation statutes limit the extension of a municipal boundary to no more than three miles within any one year. In general,

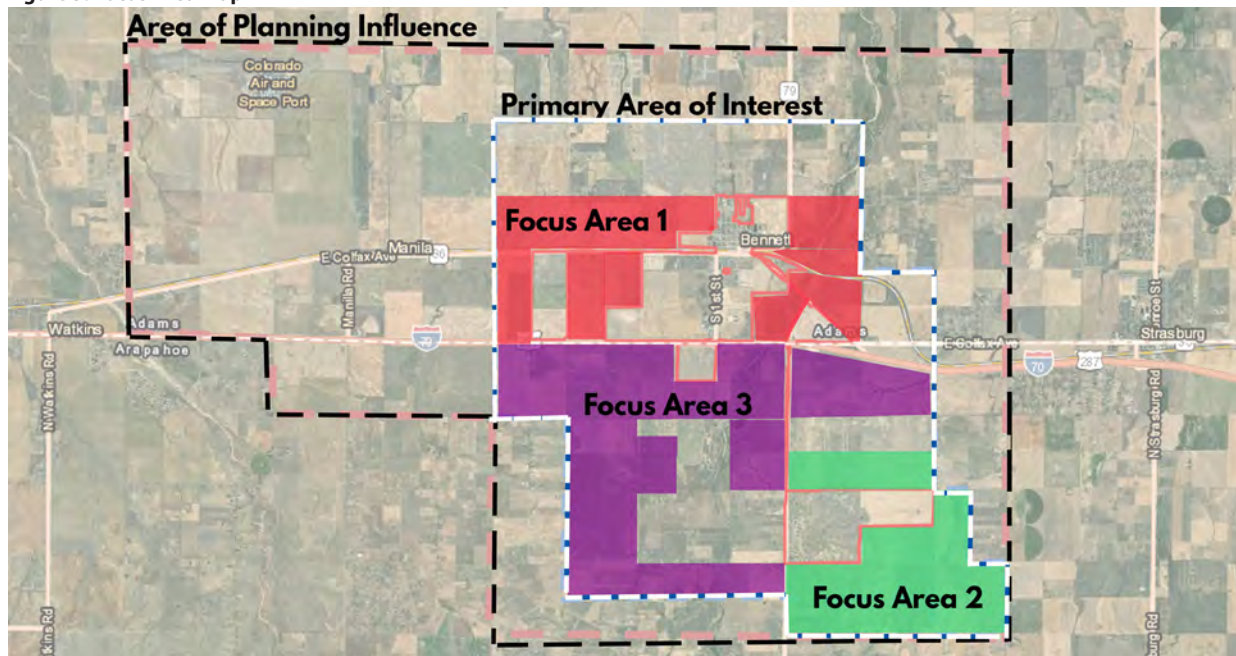
**Achievable Goal:** To support the development of Bennett as a healthy community with interconnected employment and neighborhood centers.

**Key Strategy:** Utilize incorporated lands and public rights-of-way to establish continuity for future annexation of land on a prioritized basis.

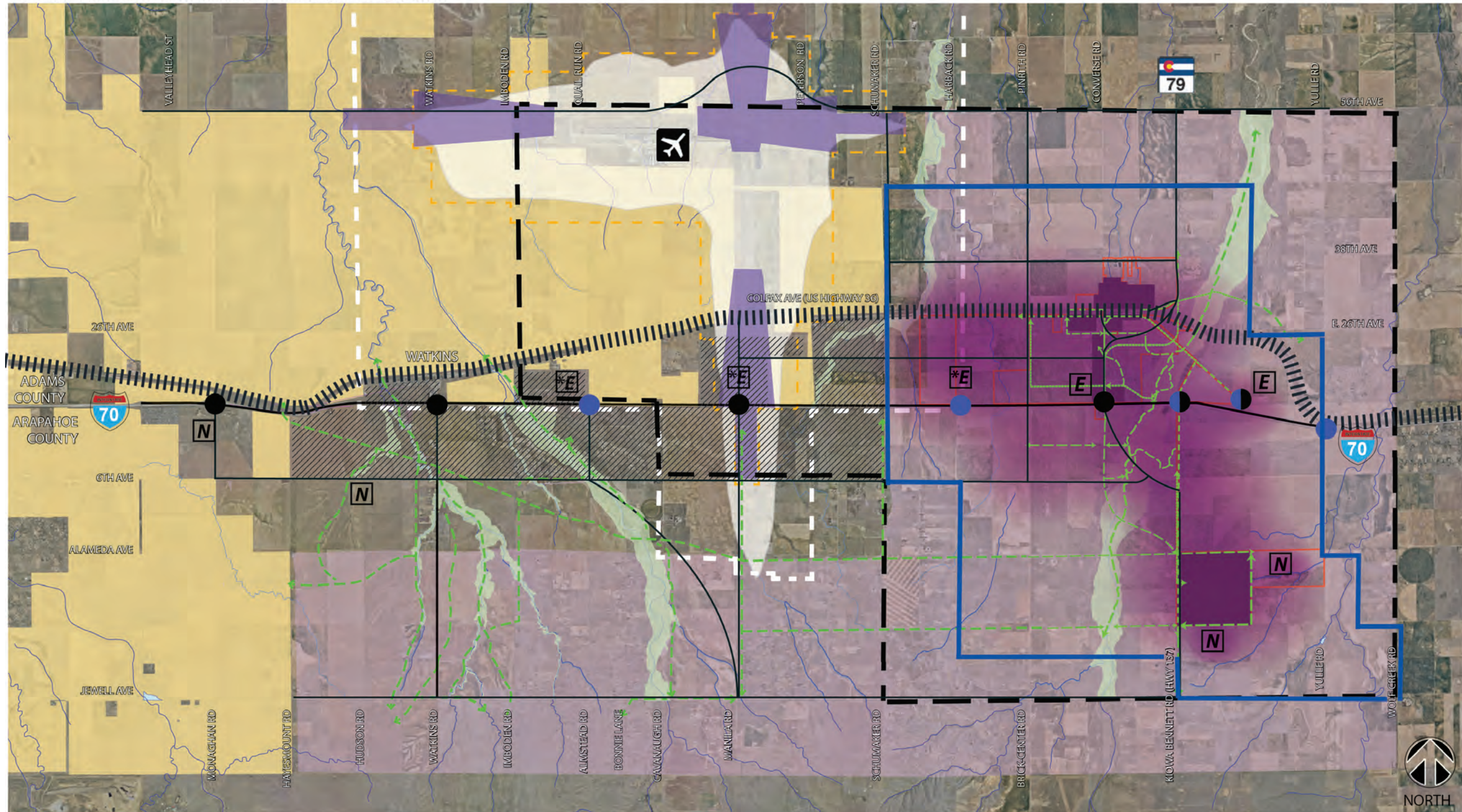
**Catalyst Action:** Update on an annual basis the Town's Three Mile Area Plan that serves to support Colorado statutory provision C.R.S. § 31-12-105, which requires that a municipality have a plan in place prior to the annexation of any land.

**Policy Directive:** Existing rural residential subdivisions in all annexation priority areas shall not be considered for annexation, unless critically in need of sewer and/or water service due to environmental concerns, failing septic systems, or poor water quality or quantity.

Figure 5: Focus Area Map

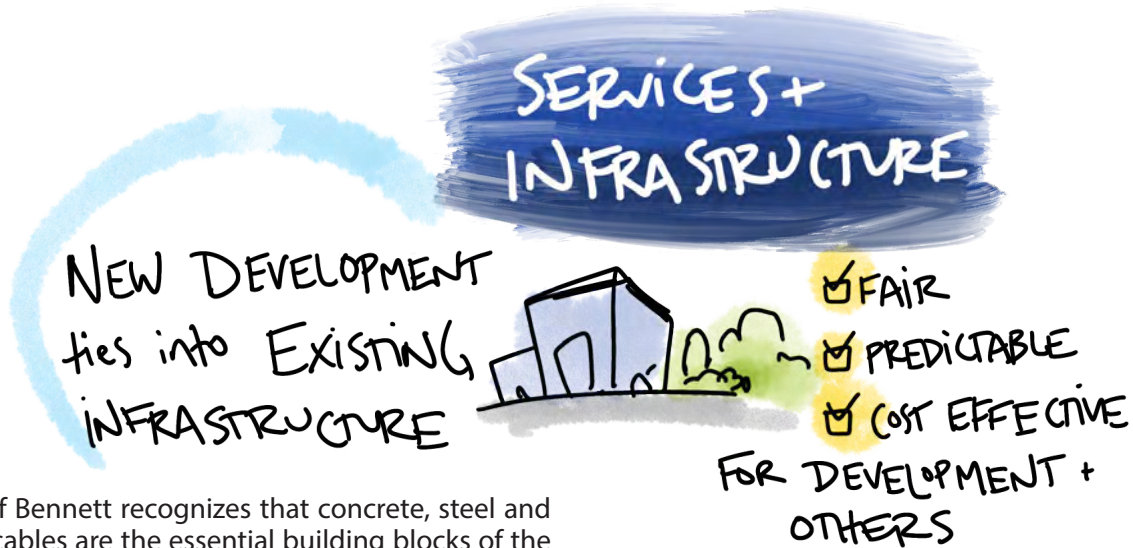


# PREFERRED PLANNING PRINCIPLES MAP



## Legend

Area of Planning Interest	Colorado Air and Space Port	Freeway	Established Municipal Area	Employment Center
Area of Planning Influence	Airport Influence Zone	State Highway	Developing Municipal Area	* Subject to Airport Influence Zone restrictions
Town of Bennett	Airport Restriction Area #1	Union Pacific Railroad	Rural/ Rural Preservation	Neighborhood Center
City of Aurora	Airport Restriction Area #2	Existing Interchange	Natural Resource Area	Proposed Arterial
Aurora Strategic Area	55 DNL Noise Contour	Proposed Interchange		Proposed Regional Trail



The Town of Bennett recognizes that concrete, steel and fiber-optic cables are the essential building blocks of the economy. Infrastructure enables trade, powers businesses, connects workers to their jobs, creates opportunities for communities and sustains us from an unpredictable economy. From private investment in telecommunication systems, broadband networks, freight railroads, energy projects, and pipelines to the Town’s responsibility of transportation, water, buildings, facilities, and parks, infrastructure is the backbone of a viable community and a healthy economy.

A primary focus of Bennett infrastructure is to plan, protect and construct sustainable and resilient infrastructure for current and future residents of Bennett. A thorough assessment of current assets and prospects for growth associated with a renewable water supply is a fundamental tenet of the 2019 Capital Asset Inventory Master Plan, otherwise referred to as CAIMP. In December 2019, the Town of Bennett Board of Trustees adopted a resolution approving the CAIMP as guiding principles for which infrastructure will be assessed, planned, designed, and constructed. CAIMP affirms Bennett’s commitment to responsible planned development, resiliency, economic vitality and a program for public improvements to protect quality of life for its residents. CAIMP provides appointed and elected officials, landowners, project applicant, and other stakeholders with a broad policy tool for guiding decisions concerning capital infrastructure for current and future Town assets.

CAIMP was a targeted update of the Town’s 2003 B.B.C. Research & Consulting Impact Fee Study, 2008 R.T.W. Water-Wastewater Master Plan and Rate Study, and the 2014 Impact Fee Update. The Town’s senior staff, Terramax, Inc., Aqua Engineering, Jehn Water Consultants., Inc, Northline G.I.S., PureCycle, Kendrick Consulting, Inc., Norris Design, and SM Rocha, LLC. made up the consulting team responsible for the development of this robust master plan. Additionally, public forums were hosted to provide residential input and historical data.

Through previous assignments and communications with Bennett’s stakeholders, this planning approach recognizes the Town’s burgeoning Geographic Information System (GIS) vision and commitment. This new ESRI GIS program provides an avenue for more dynamic, flexible and useful living documents for master planning and capital improvements. While many master plans and capital improvement programs are destined to become obsolete quickly, GIS holds the potential to work directly against this factor, by remaining in regular and active use, reviewed and updated by Town staff and Town policy directives.



CAIMP underscored the need to “quantify the reasonable impacts of the proposed development.” As Bennett considers new initiatives to complement the need for a diverse mix of land uses and services, the Town recognizes the desire from developers to diversify housing products and development phasing. Bennett took steps to assess impacts based on development types equivalent to a typical single-family resident living in Bennett. Impacts are now assessed through the Single-Family Equivalent (S.F.E.) method, which is proportionate to the size of the property, bedrooms of residential or restrooms of commercial to determine the estimated equivalence of impact of that proposed development.

Finally, to be successful, capital improvement planning must be an ongoing activity. The progress matrix within CAIMP provides an essential plan monitoring tool specific to services and infrastructure, that identifies timeframes for the accomplishment of catalyst actions in congruence with the Comprehensive Plan.



Natural, technological and human-caused hazards take a high toll on communities, but better managing disaster risks can reduce the costs of lives, livelihoods and quality of life. The Town recognizes that planning and implementing prioritized measures can strengthen resiliency, improve a community's ability to continue or restore vital services in a more timely way and build back better after damaging events. One of the primary objectives of this Plan update is to prepare the Town for future events, minimize risk and assure recovery if disasters occur.

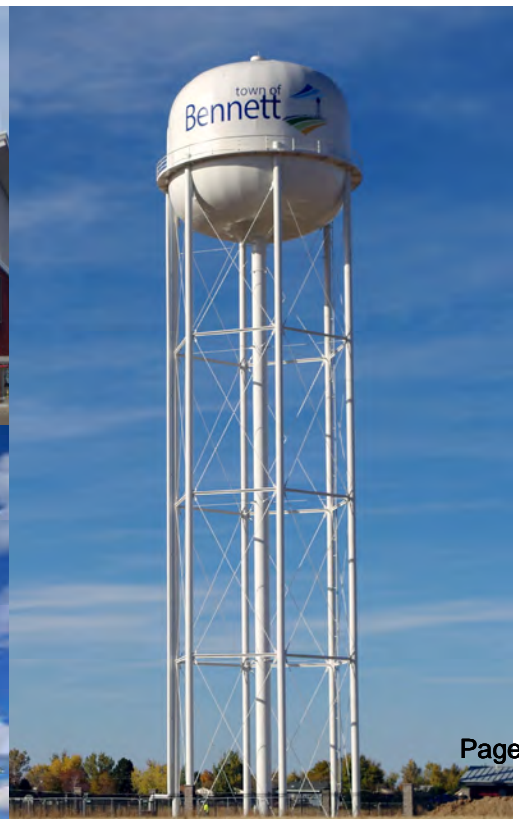
The plan provides a practical and flexible approach to help Bennett improve resilience by setting priorities and allocating resources to manage risks for prevailing hazards. Early identification of the planning process, which includes working examples, will help to illustrate the elements of resiliency. Furthermore, the Town will gather resources to characterize the social and economic dimensions of the community, dependencies and cascading consequences, and building and infrastructure performance. Finally, the implementation of resiliency guides can assist integration of consistent resiliency goals into economic development, zoning, mitigation and planning activities that impact buildings, utilities and other infrastructure system needs.

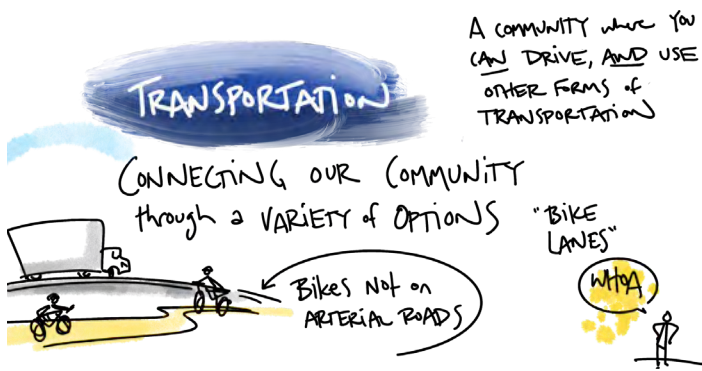
**Achievable Goal:** Create the next-step process to help the Town think through and plan for its social and economic needs, their particular hazard risks and recovery of the built environment.

**Key Strategy:** Setting performance goals for vital social functions—healthcare, education and public safety—and supporting buildings and infrastructure systems - transportation, energy, communications, and water and wastewater.

**Catalyst Action:** Create the action-oriented resiliency companion report to help the Town follow a guided and researched process, including providing a series of customizable templates and additional resources if a hazard occurs.

**Policy Directive:** The community's social and economic needs and functions should drive goal-setting for how the built environment performs and providing a comprehensive method to align community priorities and resources with resilience goals.





Bennett is one of the most accessible communities in the Denver area. The transportation network includes Interstate 70 (I-70), US Highway 36 (US 36), State Highway 79 (SH 79), as well as the Union Pacific Railroad. In addition, Bennett's proximity to Denver International Airport (DIA), the Colorado Air and Space Port, and E-470 Public Highway Authority creates transportation connections ideal for responsible development and economic vitality. Furthermore, the extensive network of trails weaving through our parks, neighborhoods, schools, community facilities, employment centers and activity districts provide the framework for a safe multi-modal transportation network.

The regional highway system's condition and functionality significantly impact the Town's existing and future roadway systems. The two primary access points off I-70 (I-70/Kiowa-Bennett Road and I-70/SH 79) currently provide convenient access to the community. The Town recognizes that as the community grows these main entry points will require significant improvements.

In 2015, the Town of Bennett passed a successful sales tax and bond measure for an additional 1% sales tax and completely reconstructed most of the streets in Bennett and made crucial repairs to the existing concrete streets. This sales tax does not sunset but will continue to be a primary funding source to make future improvements and repairs to our system.

Several studies addressing transportation needs inform this comprehensive plan, including the SH 79 PEL Study, the Access Control Plan, the Downtown Bennett Planning Study, the Grade Separation Preliminary Feasibility Study, the Adams County Transportation Plan and the Arapahoe County Transportation Plan.

Key recommendations reflected include:

- The realignment of SH 79 east of Bennett, which begins south of 38th Avenue and ends just north of I-70.
- Constructing new interchanges on I-70 at Quail Run Road, Harback Road and Yulle Road and improving the existing SH79 and Kiowa-Bennett Road interchanges.

A key next step is creating a Master Transportation Plan (MTP). The MTP will guide the Town's policy development, and the delivery of services, prioritize transportation projects, outline opportunities and generate a strategic action plan for the next ten years. In addition, the MTP will review and outline expansion opportunities for roadway, transit and other cutting-edge transportation opportunities, including a multi-modal transportation network of bike lanes and trails, and future public transit elements:

- Express bus service to the Denver metro area, as the majority of the Area of Planning Interest is currently located outside the existing Denver Regional Transportation District (RTD) boundary; and
- The initiation of a local bus circulator or trolley service that will give residents the ability to travel between neighborhood and employment centers.
- Potential transit improvements that extend beyond the 2040 planning horizon could include:
- Commuter rail service to RTD's planned East Corridor commuter rail line using either the existing Union Pacific rail line or new rail installed in the I-70 median; and
- A high speed rail station located at an I-70 interchange in the Area of Planning Influence, with service from Denver.

**Achievable Goal:** To provide a safe, efficient, and connected multi-modal transportation network.

**Key Strategy:** Improve vehicular access, traffic circulation and public safety at interstate highway interchanges accessing Bennett.

**Catalyst Action:** Completion of a master transportation plan for the Town of Bennett and incorporating the plan into the Town's GIS systems.

**Policy Directive:** The Town shall work with DRCOG, CDOT, RTD and other regional transportation entities to coordinate development of a multi-modal transportation system.





The Town’s economic development strategy intends to strengthen and grow the Town’s employment base, support existing and new retail business and foster redevelopment of our Downtown. The Comprehensive Plan supports a full range of business growth opportunities within the Town from inception to expansion to provide a healthy environment for business development. There is a unique opportunity with the amount of land available to both nurture existing businesses and accommodate new businesses. Identifying land uses and development that will complement the Town’s rich service base is a key focus as the Town grows and attracts new businesses.

The Area of Planning Influence is part of the Colorado Air and Space Port industrial space submarket, which is projected to capture 77.6 percent of the new growth in industrial space and ultimately represent 32 percent of the total industrial space in the Denver metropolitan area. In addition, there are over 2,400 acres of open land available for development within the Area of Planning Interest. Thus, available land is one of Bennett’s most significant assets for recruiting business and employment opportunities.

The Town commits to targeting new opportunities and expansion of existing businesses that diversify our economic base and continue to strengthen the fiscal health of our community while respecting our natural resources and our unique small-town feel. The Town of Bennett Economic Development Assistance (EDA) policy is intended to customize economic development assistance based upon the need of the project and meet long-term community goals by creating a vibrant, economically healthy community.

The concentration for development into employment centers is a key component of the recruitment strategy for the Town. These employment centers are proposed along the I-70 Corridor at major interchanges, parallel to the Union Pacific Railroad; and near E-470, SH 79 and 56th Avenue with excellent access to DIA and Colorado Air and Space Port. The employment centers are intended to accommodate commercial and industrial land uses, including large-scale warehousing, manufacturing, outdoor storage, distribution and trans-loading facilities. Other supporting uses could include hotels, restaurants, child care centers and small-scale retail.

As growth continues into the eastern I-70 Corridor region, Bennett finds ways to balance economic development with the community’s desire to maintain its rural and agricultural character. Since 2013, the “Bennett Community Market” has been an agricultural attraction along the I-70 Corridor and partner of recent agritourism initiatives. The Bennett retail community has grown from one primary grocer to a diverse economic service base for the Eastern Corridor. The retail development efforts reflect Bennett’s ongoing commitment to maintain its agricultural heritage, stimulate economic development and foster healthy lifestyle choices.

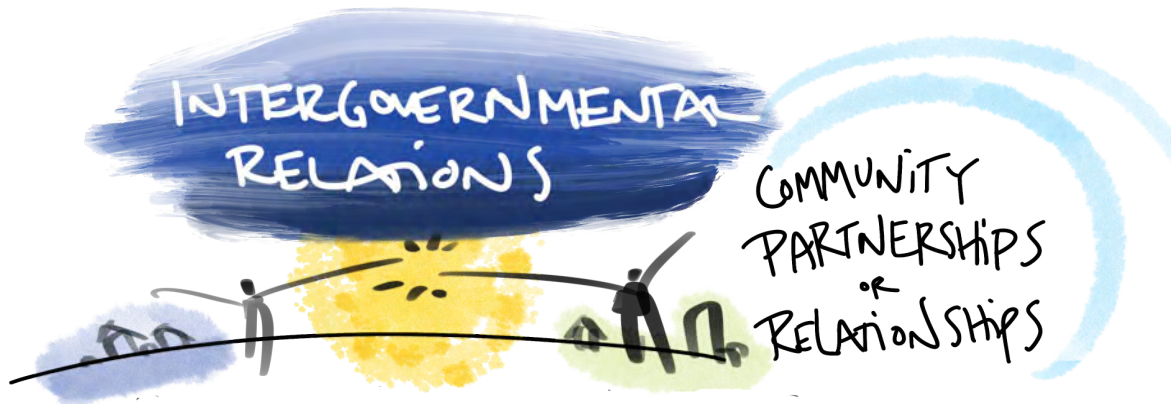
**Achievable Goal:** To enhance the sales tax and employment base of the Town by attracting and retaining commercial and industrial development.

**Key Strategy:** Identify and preserve land for Town Centre Concept and parallel Mainstreet.

**Catalyst Action:** Finalize and implement the next steps in the Strategic Economic Development Plan to determine advantages and priorities for attracting a variety of new commercial and industrial development into identified employment center locations that will meet the daily needs of area workers.

**Policy Directive:** The Town shall proactively annex and zone land for employment centers.





Both the Planning Influence Area and Area of Planning Interest for the 2021 Comprehensive Plan include areas of unincorporated Arapahoe and Adams Counties and the City of Aurora. These three jurisdictions, along with the Town of Bennett, the Bennett School Districts, the Bennett Fire Protection District, Anythink Library District, and the Bennett Recreation District, are major stakeholders in ensuring coordinated regional planning. The Town renewed local focus in this 2021 update, working to ensure all local special districts were included in the planning process as well as updating Intergovernmental Agreements with these entities to identify future expectations for growth and partnership.

Both Adams County and Arapahoe County updated long-range planning documents relative to the Bennett area including the Colorado Air and Space Port Subarea Plan and the Watkins-Bennett Area Vision Study. In addition, the City of Aurora completed a comprehensive plan update in 2009. While Bennett’s influence planning area excludes the City of Aurora, there is a minimal direct impact on the desired annexation of these parcels. The overarching goal is to develop partnerships that encourage new growth into all adjacent areas that contemplate reduced impacts to the Town, County’s and City and maximize access to services and existing infrastructure for residents and businesses. The Town is also interested in pursuing joint planning for the Colorado Air and Space Port in combination with the County’s Subarea Plan.



During the development of the 2019 Capital Asset Inventory Master Plan, the Town initiated a process to coordinate its planning principles with major stakeholders. As a result, several important issues have been identified that could ultimately form the basis for one or more intergovernmental agreements, including:

- A governance structure for regional infrastructure improvements that include water, wastewater, transportation and open lands preservation;
- Revenue sharing from future commercial and industrial development;
- Joint development standards in anticipation of future annexation;
- Regulatory changes to the Space Port influence zone framework; and
- Common interest in urban growth area in Bennett.

**Achievable Goal:** To create a cooperative framework for regional land use planning in the eastern I-70 corridor.

**Key Strategy:** Promote the coordination of local and regional plans through active participation and leadership in the Colorado Air and Space Port and the updates to the Adams County and Arapahoe County comprehensive plans.

**Catalyst Action:** Renew or Create Intergovernmental Agreements (IGA’s) as needed between/among local partners such as the Bennett/Watkins Fire Protection District, Bennett 27J School District, Bennett Parks and Recreation District, and the Anythink Library District.

**Catalyst Action:** Integrate additional county offices into Town facilities to foster the efficient provision of coordinated local government services for area residents.

**Policy Directive:** The Town shall work with DRCOG, the City of Aurora, Adams County and Arapahoe County on matters of inter-jurisdictional concern. Page 31

# PREFERRED PLANNING PRINCIPLES

During the initial major revision to the Comprehensive Plan in 2011, the Town laid out a conceptual planning framework that is consistent with the Town's vision and guiding principles.

This 2021 update redefined the planning areas, shown in Figure 5 on page 9, and are as defined below:

1. The Area of Planning Interest, which includes the Town of Bennett and an unincorporated planning area within Adams and Arapahoe counties; and
2. The Area of Planning Influence, a potential growth area within the I-70 Corridor that may impact the Area of Planning Interest that includes the community of Watkins, Colorado Air and Space Port, and an undeveloped portion of northeast Aurora.

The Town's Planning Principles are categorized into four planning definitions:

## **Established Municipal Area**

That portion of the existing incorporated Town of Bennett, which for the most part is a well developed and mature built environment with adequate services and infrastructure capability. This area also includes the Main Street- Downtown and Old Town areas proposed for redevelopment in the Town Centre Land Use Concept, as shown on page 19.

## **Developing Municipal Area**

Areas where development is either contiguous to Established Municipal areas or where a stand-alone neighborhood or employment centers are contemplated. Developing Municipal areas are characterized by direct access to I-70 and proposed arterial roadways and transit, and the potential for targeted delivery of infrastructure and urban services.

## **Rural/ Rural Preservation**

For the Area of Planning Interest, this area includes existing rural residential neighborhoods, large lot development, very low density cluster development and large agricultural land holdings that desire to remain rural or rural in character. The Open Lands element calls for a number of mechanisms to protect and/or preserve these areas.

## **Natural Resource Area**

Areas that are the within designated one-hundred year flood plains. Natural Resource areas represent significant value to current and future residents in terms of open space, trail systems, passive recreation, flood control, water quality and water supply.

The assumptions derived from the 1999 comprehensive plan that shaped the preparation of the 2012 comprehensive plan and each subsequent plan update that remain relevant today are:

- Residential and commercial development is inevitable and will continue due to regional growth pressures, proximity to transportation infrastructure and availability of services;
- Adams County, Arapahoe County and the City of Aurora recognize Bennett's interest in development issues; and
- Distinction can be made between varying levels of development within Bennett's geographic area of interest.

The Town envisions a healthy, sustainable community where residents can live, work and play locally, setting Bennett and its proximity to the I-70 corridor apart from a conventional development pattern and being unique for the needs of current and future residents. Key elements of the Plan include:

- Future land development is concentrated in mixed use, master-planned neighborhood and employment centers wrapped with agricultural lands and very low density rural development;
- The open land between neighborhood and employment centers becomes a valuable community asset, with a regional trail system along riparian corridors providing important recreational and environmental linkages;
- Access, mobility and circulation are improved as development occurs, with future transit providing service between neighborhood and employment centers while additional options are explored;
- An efficient service and infrastructure delivery system limits capital and operating costs, easing the fiscal burden of existing and future residents;
- Intergovernmental Agreements (IGA's) between/ among Arapahoe County, Adams County, Aurora, to address coordination of land use issues, public financing districts, joint development standards, capital investment policies, and potential for revenue sharing; and
- Intergovernmental Agreements (IGA's) as needed between/among local partners such as the Bennett/ Watkins Fire Protection District, Bennett 27J School District, Bennett Parks and Recreation District, and the Anythink Library District.



The 2021 update will continue to reference guiding principles outlined in the 2010 Downtown Planning Study. This study is still a viable opportunity for the Town to analyze and explore future possibilities for infill development and redevelopment of Bennett north of I-70. The Town Centre Land Use Concept Plan (Figure 7) calls for increased residential density near the historic center of the Town, allowing for diverse housing opportunities that will appeal to both young adults and the increasing retirement age population. Lower density residential opportunities are reserved for the outlying edges of the Town Centre. Employment center, light industrial and commercial uses are focused along the SH 79 and SH 36 highway corridors. The Town Centre land use categories are defined as:

**Main Street – Downtown**

The Main Street - Downtown focuses attention on a pedestrian-oriented environment where accessibility and visibility are key. Retail is anticipated on a smaller scale with the buildings on the street creating energy and vitality through art, food, music, and entertainment. Residential uses may include single family attached and small multi-family, live/work units, and vertical mixed use with ground floor retail. See the Downtown Conceptual Plan in Figure 6, below.

**Old Town**

Old Town is the historic commercial center of Bennett. This area is bisected by the railway line where transportation continues to allow easy access to farming goods and services. This historic core continues to be a vital area for affordable and accessible commercial properties. Expanding upon the Main Street - Downtown theme, street improvements are envisioned where sidewalks, street trees, lighting, and parking all create an urban spine that revitalizes this important commercial center.

**Commercial Mixed Use Corridor**

These areas are adjacent to the realignment of SH 79 and SH 36 (E. Colfax Avenue) serving a high volume of vehicular traffic on a regional route including semi-tractor trailers. Residential is secondary and needs to be compatible with the commercial uses along this corridor.

**Mixed Residential**

Mixed Residential neighborhoods will contain a variety of housing types and densities, combined with non-residential secondary land uses that are complementary and supportive. These areas should meet a wide variety of every-day living needs, encourage walking to gathering places and services, and integrate into the larger community. Other supporting land uses, such as parks and recreation areas, religious institutions, and schools may be included in Mixed Residential areas.

**Low Residential**

Low density residential uses are typically less than 5 dwelling units per acre and comprised of single-family detached housing. Low Residential areas are intended to provide housing to accommodate a wide range of price ranges, from affordable single-family starter homes to custom home neighborhoods managed by homeowner associations.

**Freeway Commercial**

Freeway commercial land uses accommodate larger scale retail uses and cater to a regional population traveling along the I-70 and SH 79 corridors. As the principal gateway to Bennett, this area needs to provide continuity between the larger scale regional development and the smaller scale commercial and residential areas of Bennett progressing from I-70 along SH79 into Main Street.

**Light Industrial**

The Light Industrial area on the northern edge of the town core allows of a wide variety of industrial land uses that contribute to the employment base. The light industrial centers should integrate buildings, outdoor spaces, and transportation facilities, with minimal levels of dust, fumes, odors, refuse, smoke, vapor, noise, lights, and vibrations.

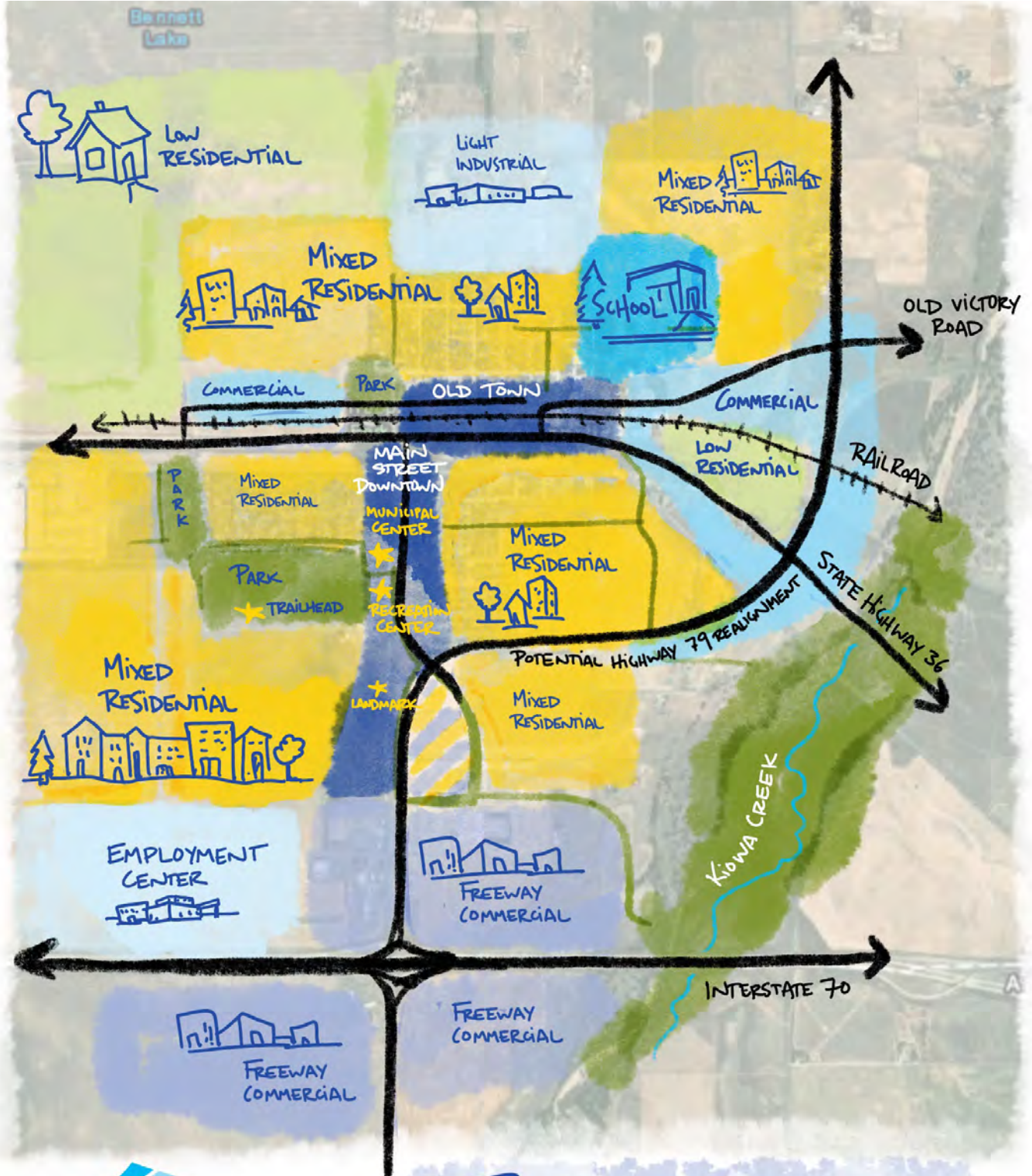
**Employment Center**

The Employment Center proposed near the I-70/SH79 interchange is intended to serve as a location for non-residential commercial and industrial uses in a campus-style, business park configuration. See page 15 for additional details on employment centers.

Figure 6: Downtown Conceptual Plan



Figure 7: Town Centre Land Use Concept Plan



welcome neighbors.

# TOWN CENTRE

## LAND USE CONCEPT

# PLAN MONITORING

To be successful, planning must be an ongoing activity. Plan monitoring involves establishing accountability tools for tracking progress over time. The progress matrix (below) is a basic plan monitoring tool that identifies timeframes for the accomplishment of catalyst actions: short-term (annual to three years), midterm (three to five years), and long-term (five years and beyond).

Plan monitoring is a dynamic process. Key strategies, catalyst actions, and policy directives should be reviewed on an annual basis and refined with changing circumstances. As data become available, indicators or other specific measures that monitor the accomplishment of achievable goals should be established for each plan theme. Finally, the entire plan document should be considered for public review and updated five years from its adoption.

## Progress Matrix

Catalyst Action	Completion Timeframe	% Complete
Update on an annual basis the Town's Three Mile Area Plan that serves to support Colorado statutory provision C.R.S. § 31-12-105, which requires that a municipality have a plan in place prior to the annexation of any land.	Short-term	___%
Completion of a master transportation plan for the Town of Bennett and incorporating the plan into the Town's GIS systems.	Short-term	___%
Renew or Create Intergovernmental Agreements (IGA's) as needed between/among local partners such as the Bennett/Watkins Fire Protection District, Bennett 27J School District, Bennett Parks and Recreation District, and the Anythink Library District.	Short-term	___%
Integrate additional county offices into Town facilities to foster the efficient provision of coordinated local government services for area residents.	Mid-term	___%
Update design guidelines and transition the Town's existing PD's and outdated zoning districts into one of the new zoning districts.	Mid-term	___%
Finalize and implement the next steps in the Strategic Economic Development Plan to determine advantages and priorities for attracting a variety of new commercial and industrial development into identified employment center locations.	Mid-term	___%
Conduct an assessment of local and regional plans adopted by the Town, Adams and Arapahoe County and other regional governing bodies to link trail systems and open space.	Long-term	___%
Create the action-oriented resiliency companion report to help the Town follow a guided and researched process, including providing a series of customizable templates and additional resources if a hazard occurs.	Long-term	___%
Work with Arapahoe County's Open Space Master Planning efforts to redefine their North Open Space parcel and identify the trail linkage program for connectivity with the Town's trail system.	Long-term	___%

## Acknowledgements

### Bennett Board of Trustees (2021)

Royce Pindell, Mayor  
 Darvin Harrell, Mayor Pro Tem  
 Kevin Barden, Trustee  
 Whitney Oakley, Trustee  
 Denice Smith, Trustee  
 Donna Sus, Trustee  
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### Bennett Town Staff & Consultants (2021)

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 Gina Burke, Jehn Water Consultants, Inc.

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 Jan Yeckes, Arapahoe County  
 Loretta Daniel, Arapahoe County  
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 Jenni Grafton, Adams County

**Illustrations** by Karina Branson of ConverSketch

Special thanks to the **Department of Local Affairs** for their generous funding of the project, and to the citizens who participated in the public workshops.

# town of **Bennett**

MASTER TRANSPORTATION PLAN 2023



*Prepared For:*



*Prepared By:*

**Bohannon**  **Huston**

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## EXECUTIVE SUMMARY

The Town of Bennett Master Transportation Plan (MTP) sets the foundation to support short- and long-term multimodal transportation improvement projects for the foreseeable future. This plan builds on the need identified in the recently updated Town of Bennett Comprehensive Plan (2021) to "...guide the Town's policy development, and the delivery of services, prioritize transportation projects, outline opportunities, and generate a strategic action plan for the next ten years."

Town of Bennett residents, employees and visitors traveling to and through the Town require a variety of transportation systems that enable them to visit the destinations they need and desire to go to including parks and trails, schools, work, health centers, shopping, and other social and community amenities. A safe, efficient and reliable multi-modal transportation system is crucial for ensuring mobility and freedom of choice when choosing how and where to travel.

The MTP addresses the needs of all transportation modes, including driving, biking, walking, and future transit to accommodate existing needs and future growth and development anticipated in the Town of Bennett. The plan identifies transportation goals, policies, strategies, and priority investments for the future that respond to Town needs focused on current and projected housing, employment, and travel patterns. Overall, it provides a long-range transportation vision for the future to best serve system users and address increasing demands for travel in and around the Bennett community. Taking into consideration fiscal constraints and potential population and development adjustments as conditions change over time, this plan contains flexible and realistic recommendations and projects for the future that are necessary for the Town to transform its vision for the future into reality.

***Town of Bennett Comprehensive Plan Guiding Principle #1: A comprehensive, safe and efficient transportation system that provides for all forms of travel, including vehicular, bicycle, pedestrian and public transit.***

## KEY THEMES

Throughout the planning process, a set of key transportation-related themes were identified. These themes are briefly outlined below with further discussion included in ensuing chapters of this plan.

### Town growth and impact on the roadway network

Growth within the community is a predominant topic of not only the Town's comprehensive plan, but also this plan. It is clear there are specific planning and implementation considerations that must be addressed between the two to ensure a cohesive and efficient environment for current and future residents. Without proper planning, uncoordinated development has the potential to negatively affect the efficiency of the transportation network in the Town. This is both a specific purpose of this plan, and the benefit of completing this process now instead of after the fact. Outlined in more detail within Chapter 4 of this plan, estimated impacts from development are accounted for and necessary roadway improvements are outlined for near- and long-term implementation.

### Peak period congestion and safety concerns

Traffic congestion is caused by a number of factors, such as design issues, roadway capacity issues; and localized factors like traffic patterns, traffic control, accidents and construction. Often congestion is felt by motorists during peak periods of vehicular travel – typically defined as the continuous 60-minute stretch of time with the highest traffic volume for morning and afternoon period of travel. Additionally, congestion is more readily perceived at intersections where travel time delay is more acutely experienced by drivers. Additionally, previous studies associated with development in the community have estimated that on average the increase in roadway users may increase travel delay between 20-35 seconds with associated improvements on the current roadway configuration. Chapter 4 and the Transportation Network Analysis supplement provide further detail on the overall analysis completed to develop this plan.

Issues of safety were predominant in the comments received through community engagement. The user safety poll allowed respondents to rank each mode of transportation (driving, walking,

**Achievable Goal:** To provide a safe, efficient, and connected multi-modal transportation network.

**Key Strategy:** Improve vehicular access, traffic circulation and public safety at interstate highway interchanges accessing Bennett.

**Catalyst Action:** Completion of a master transportation plan for the Town of Bennett and incorporating the plan into the Town's GIS systems.

**Policy Directive:** The Town shall work with DRCOG, CDOT, RTD and other regional transportation entities to coordinate development of multi-modal transportation system.

and bicycling) based on their perception of each activity. In general, respondents ranked each mode as unsafe, and noted that bicycling is the least safe mode of transportation in the Town. In addition, respondents were also invited to identify specific locations and associated issues on an interactive map provided throughout the planning process. In most instances, safety was the issue indicated. A comment density map is included in the Transportation Network Analysis supplement outlining concentrations of comment locations throughout the Town that require specific attention.

## Continued regional coordination

Lastly, a common thread between the analysis and the recommendations is the need for a focused effort surrounding continued regional coordination. The Colorado Department of Transportation is the owner of several integral roadway corridors throughout the community. Coordination between the Town and CDOT is of the utmost importance in order to facilitate several improvement recommendations included in this plan. Another purpose of this plan is to help outline the background and support the identified improvements to increase the potential for implementation.

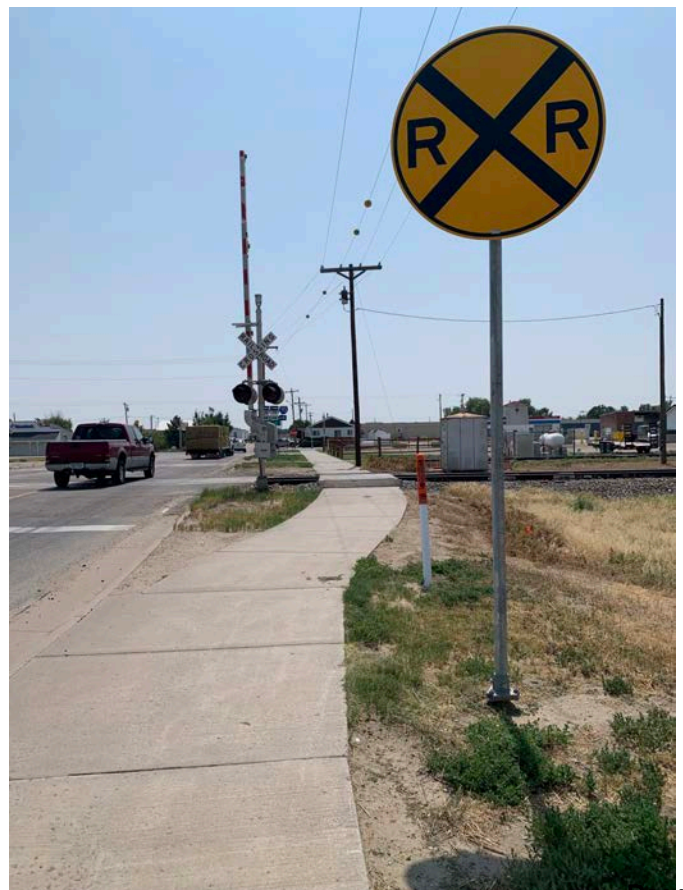
It is also important for the Town of Bennett to continue coordinating and collaborating with both Adams and Arapahoe Counties. It has already been noted that the town is experiencing a substantial increase in growth – much of the anticipated future growth taking place through annexation which will have compounding roadway improvement and connection implications between the different jurisdictions.

As a means for greater regional coordination and access to necessary federal funding to support implementation, Bennett staff should also continue to coordinate with the Denver Regional Council of Governments (DRCOG) and participate

in technical committee and sub-regional forums. Coordinating with DRCOG on the identified transportation projects included within this plan may open funding opportunities and help with the identification of competitive projects for the allocation of funding within Adams and Arapahoe Counties.

## HOW TO APPROACH IMPROVEMENTS MOVING FORWARD

This plan identifies roadway improvements that are recommended to take place over the next 20-plus years. Through the development of these recommendations, each has been prioritized based on the Town’s priority ranking process and all roadway improvements have been assigned a basic preliminary cost estimate associated with the full build-out of the improvement.



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To support further planning, fundraising, and budgeting, all data associated with recommended roadway improvements has been integrated into the Town's Capital Asset Inventory Master Plan (CAIMP) framework. This allows Town staff to monitor improvement implementation, assess and reassess priority levels based on a variety of indicators (such as new developments, collaborative agreements, allocated funding, etc.), and have a better understanding of overall cost.

Implementation may also occur in a phased approach. In many cases, the complete build-out of a particular roadway, including additional attributes, such as sidewalks, multi-use trails, and bicycling amenities may take place over time rather than all at once. For example, roadway improvements along 38th Avenue may start with lane improvements and given the pace of development in this part of the community, bike lanes and sidewalks may follow in the future. It will be important for Town staff to consider community needs and related development impacts as implementation decisions are made.

## HOW TO USE THIS PLAN | PLAN COMPONENTS

Community-focused transportation planning is a comprehensive endeavor. The process of developing a master transportation plan for the Town of Bennett has produced a substantial amount of supporting information and detail to set an appropriate course forward for future roadway upgrades and network implementation. The ensuing plan has been compiled to be user-friendly and approachable - a guide for Town staff and decision makers and a resource for residents. As such, the plan has been separated into two key components, a shorter overview of key planning outcomes (the Master Transportation Plan) and a set of supplemental documents providing detailed information where needed for future planning and implementation activities. Each of these components is outlined for reference below.

## Master Transportation Plan Components

**1. Introduction** – The introduction outlines the study area of the plan, notes connections to key local and regional plans, and provides an overarching discussion on local demographic trends, development opportunities and commuting patterns.

**2. Goals, Strategies and Action** – This brief chapter builds on the goals, strategies and actions initially developed in the Town's Comprehensive plan and further expands on these ideas by incorporating community engagement outcomes.

**3. Projections – Population, Employment, and Housing** – The projections chapter outlines the connection between continued growth in the Town and implications for the roadway network.

**4. Transportation Network** – This chapter provides an overarching analysis summary of the current roadway network in Bennett and outlines recommendations for updates to roadway functional classification and future roadway and active transportation network expansion/build-out.

**5. Recommendations and Implementation** – The final chapter of the plan puts the pieces together and outlines the need for continued planning and data development, regional roadway coordination, alignment with federal funding opportunities and future transit planning. This chapter also provides an overview of updated roadway design standards and an example of cost estimates for implementation moving forward.

## Supplemental Documentation

**Existing Conditions Supplement** provides a deeper dive into the socioeconomic conditions affecting the transportation system within and adjacent to the Town of Bennett.

**Transportation Network Analysis Supplement** provides a substantially more detailed account of the analysis completed to develop recommendations

for the transportation system moving forward. Items of note are functional classification, access and connectivity, traffic estimates and volume-to-capacity determinations.

**Basic Roadway Design Criteria Supplement** provides a detailed breakdown of the basic design criteria for each roadway type in Bennett – arterials, collectors and local roads. Each roadway detail includes an illustrative example of roadway cross sections, definitions and design considerations. This supplement also includes minimum attribute measurements by each roadway type.

**Preliminary Cost Estimates Supplement** provides a snapshot of cost estimates by roadway type by material type.

**Community Engagement Supplement** provides a slightly more detailed account of engagement activities undertaken during the transportation planning process.

**Traffic Calming Supplement** provides a toolkit of possible traffic calming treatments that may be helpful based on future needs. Each traffic calming treatment includes an illustrative example and considerations for implementation.

**EV Charging Station Location Supplement** provides a quick map of an initial investigation into potential electric vehicle charging locations throughout the Town.





# CHAPTER 1 | INTRODUCTION

## STUDY AREA

The Town of Bennett, officially incorporated in 1929, traces its origins back to 1862 originally established as a homestead by four Bennet brothers in a location just south of the current Bennett Post Office. The Town is situated on the eastern edge of the Denver metropolitan area along Interstate 70 (I-70) in Adams and Arapahoe Counties. While the Town's incorporated area is approximately seven square miles, Bennett is the shopping and service hub for over twenty thousand residents along the I-70 corridor (Figure 1). According to the U.S. Census Bureau, Bennett was home to 2,862 residents in 2020 with approximately 68 percent in family households. In addition to the availability of community amenities including access to regional and local parks, trails, and recreational facilities, Bennett is also experiencing a substantial housing and population boom. Since 2017, 329 housing units have been built and over 1,000 single-family lots are approved for development.

## CONNECTION TO KEY LOCAL PLANS

### *Town of Bennett Comprehensive Plan (2021)*

Bennett's comprehensive plan outlines the Town's commitment to responsible planned development; economic vitality; high-quality public services, resilient infrastructure, programs and policies; and the continued expansion of a healthy community and serves as a focused update of the Town's 2012 and 2015 comprehensive plans. Furthermore, the plan outlines the town's vision statement with states that the Town, "is a community built with small town character that is happy, connected, safe, and innovative with opportunity to live well and thrive."

The transportation-related component highlights the following as an achievable goal for the community: "To provide a safe, efficient, and connected multi-modal transportation network." Subsequently, the associated key strategy focuses on the need to improve vehicular access, traffic circulation and public safety at interstate highway interchanges accessing Bennett. Some of the key recommendations from the Plan that should be considered in this MTP include:

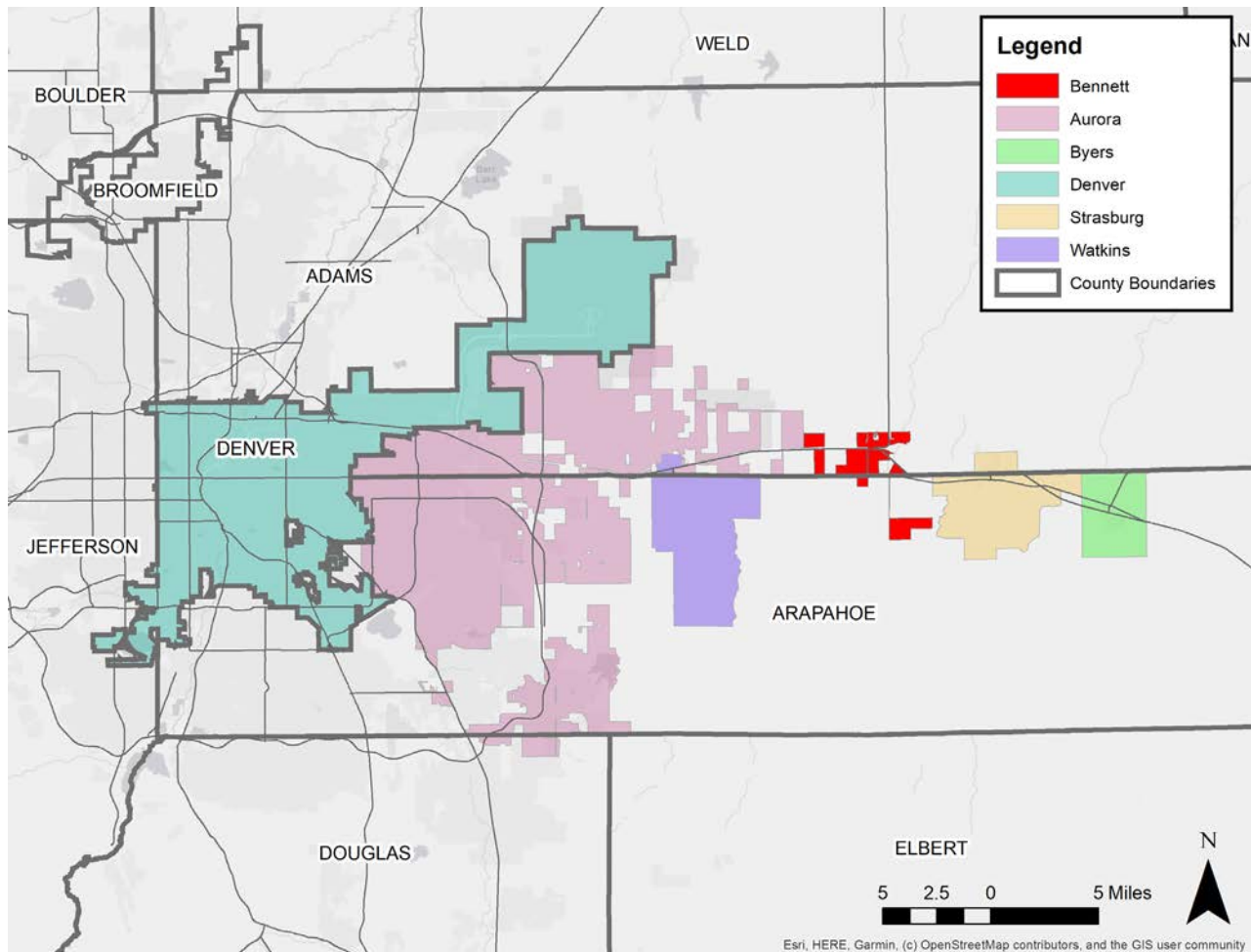


Figure 1 Regional Context and Study Area

- The realignment of SH 79 in Bennett, beginning at Edward Avenue, extending north and east over the Union Pacific Railroad and reconnecting with the existing SH near the intersection of East Palmer and Old Victory Highway.
- Improving the existing SH 79 and Kiowa-Bennett Road interchanges
- Constructing a new interchange on I-70 at Harback Road, and
- The review and outline of expansion opportunities for roadway, transit, and other cutting-edge transportation opportunities, including a multimodal transportation network of bike lanes and

trails, and future public transit elements that consider the following:

- \* Express bus service to the Denver metro area
- \* Initiation of a local bus circulator or trolley service
- \* Commuter rail service to RTD’s planned East Corridor commuter rail line – connection to UP rail line or new infrastructure within I-70 median right-of-way, and
- \* A high-speed rail station located at an I-70 interchange with service from Denver.

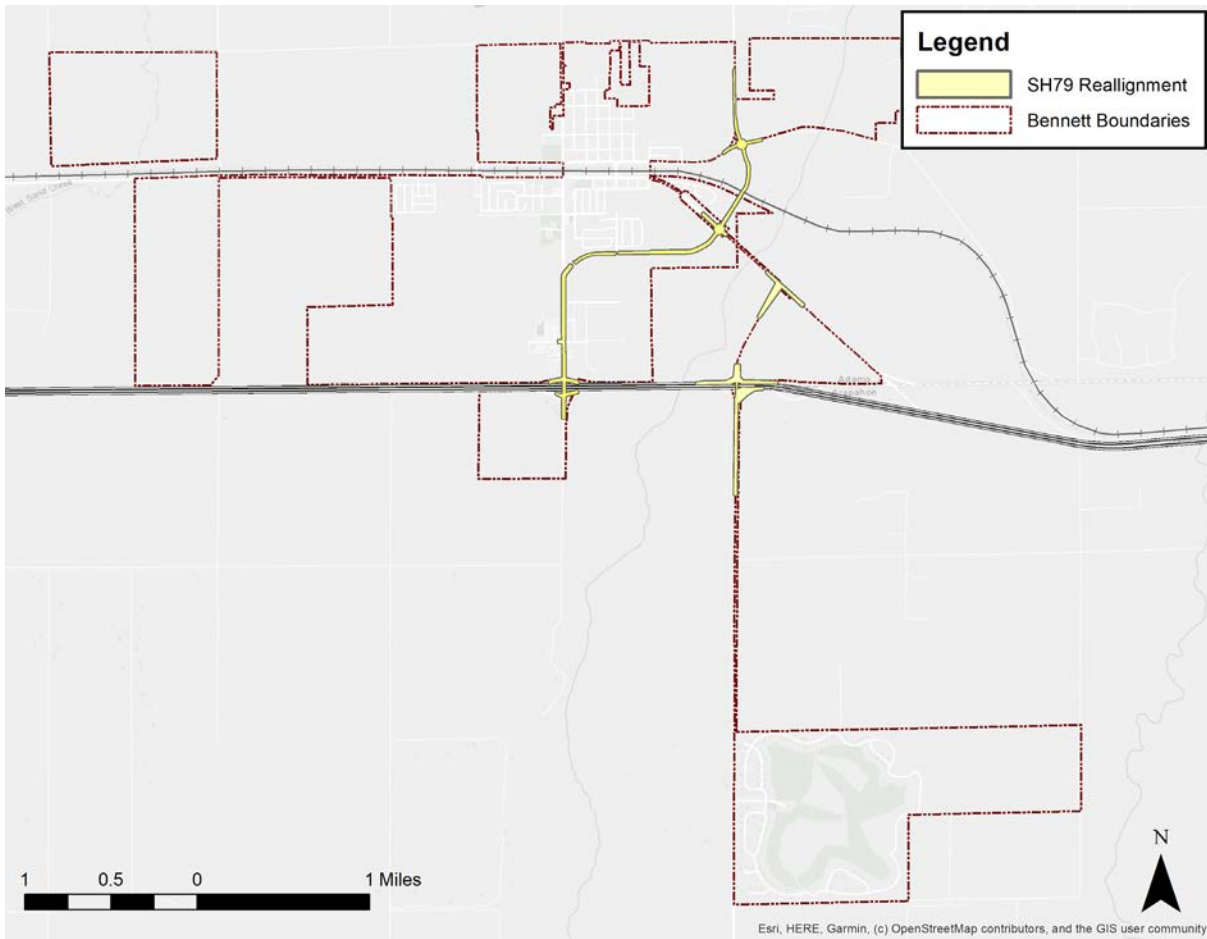


Figure 2 SH79 and Kiowa-Bennett Rd Preferred Alignment

### *Town of Bennett SH 79 and Kiowa-Bennett Corridor Planning and Environmental Linkage (PEL) Study (2013)*

The Town of Bennett in partnership with Adams and Arapahoe Counties and Colorado Department of Transportation (CDOT) prepared the PEL study to identify and assess potential transportation improvements along the SH79 and Kiowa-Bennett Road corridors. The purpose of the corridor project is to improve regional connectivity, reduce conflict and delay at the SH79 at-grade crossing of UPRR, and address safety concerns along the major corridors within the study area for existing and future conditions. The MTP builds upon the next steps outlined in the PEL study and incorporates concept design for the preferred alternative in the development of future recommendations for the entire transportation system. The next steps

identified within the plan include:

- Secure necessary funding to move projects forward into the National Environmental Policy Act (NEPA) process
- Complete the NEPA analyses of Recommended Alternative or separate project phases
- Complete design
- Obtain ROW
- Complete Intergovernmental Agreement with local agencies regarding maintenance
- Complete construction

### *Town of Bennett Capital Asset Inventory Master Plan (CAIMP) Integration*

CAIMP is the GIS-based capital asset dashboard the Town utilizes to capture, store, manipulate, and

analyze, manage and present a variety of spatial and geographical data in one accessible location. In early 2019, Town staff, engineers, and consultants focused efforts on providing a complete review of all the Town's assets covering utilities, roads, buildings, parks and planning cases.

A key feature of the development of this MTP is the integration of Bennett's roadway network and associated planned improvements as an outcome of this planning process. All developed data, analysis and implementation details have been packaged and incorporated into CAIMP to provide a holistic understanding of how identified roadway improvements fit into the larger picture of capital improvements for the Town. Chief among the data provided for CAIMP is a full account of phased roadway improvements and associated cost estimates as the Town continues to develop for the next 20-plus years. This information is further summarized later in this plan, however a detailed account of roadway implementation recommendations is contained within the Town of Bennett MTP Recommendations Supplement document.

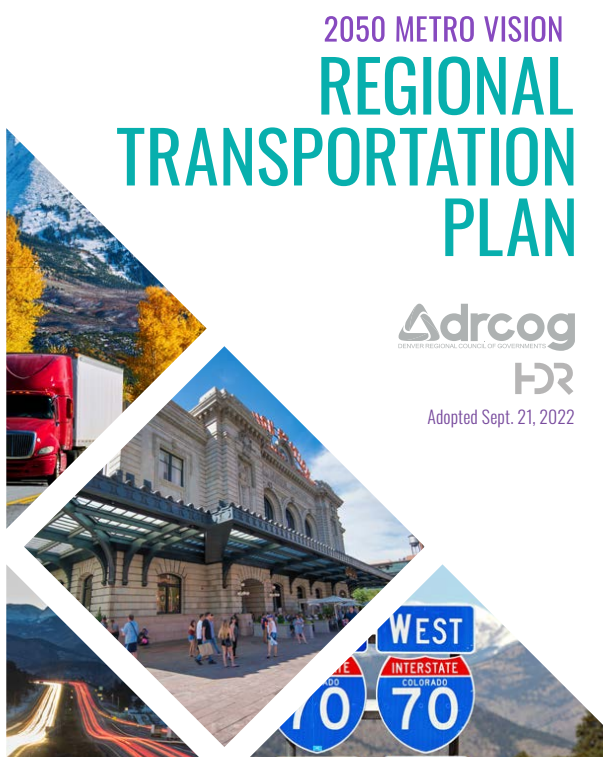
## CONNECTION TO NOTABLE REGIONAL PLANS

### *DRCOG 2050 Metro Vision Regional Transportation Plan (2022)*

The Denver Region Council of Governments (DRCOG)'s Metro Vision Regional Transportation Plan (MVRTP), adopted in 2022, encompasses the region's vision for a multimodal transportation system needed to respond to future growth and demographic trends. It identifies transportation facilities, improvements, and services for the DRCOG region.

Overarching goals of the plan include:

- Creating a safety program to increase the region's investments in projects to eliminate transportation fatalities and serious injuries;
- Continuing to invest in programs for community mobility planning and implementation, regional transportation operations and technology, regional air quality, commute options, and human service transportation through DRCOG's Transportation Improvement Program;
- Investing in a regional bus rapid transit system;
- Implement mobility hubs at strategic locations across the region to connect various travel modes;
- Creating a program focused on freight-related investments to implement multimodal freight plans recently adopted by both DRCOG and CDOT;
- Enhance the relationship between transportation and land use development;
- Provide for maintenance of a well-connected multimodal system; Incorporate



transportation management actions to increase the existing system's efficiency;

- Include travel demand management efforts to reduce single-occupancy vehicle trips..

It is important to note that the 2050 MVRTP does not currently include any major infrastructure projects in the Town of Bennett municipal limits or in areas immediately adjacent to the community.

### *Bennett Transportation Improvement Projects*

The DRCOG TRIPS database lists a completed project in the 2022-2025 cycle noting improvements to the SH79 and I70 interchange eastbound ramp improvements. These improvements include widening the interchange footprint, relocating the existing ramp interchange, and signaling the eastbound off-ramp. The cost of this project was roughly \$2.2 million (federal, state, and local dollars combined).

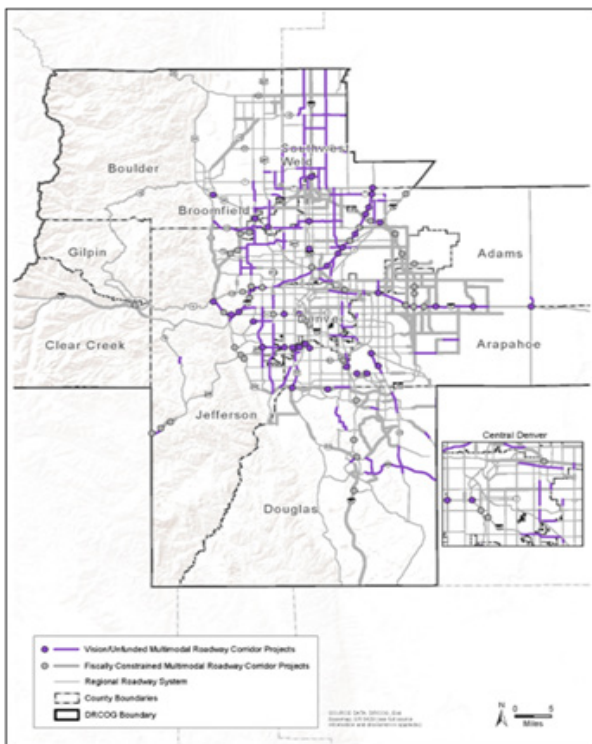


Figure 3 DRCOG Fiscally Constrained Transportation Project Map (2022)

## DEMOGRAPHICS, DEVELOPMENT OPPORTUNITIES AND COMMUTING PATTERNS

Demographic information for the Town of Bennett helps to tell a comprehensive story about those living and working in the area today and how they travel to everyday destinations. Based on data from the US Census, Bennett had a total population of 2,862 people in 2020, with a majority of those identifying as White (91.8 percent). American Community Survey 5-year estimates indicate that a large percentage of residents live in family households (68.1 percent) and that most residents are above the poverty line (approximately 91 percent).

### Anticipated Development

Development in Bennett is unlike that currently taking place throughout most of the greater Denver region. With substantial development opportunity throughout the current Town boundaries as well as property located immediately adjacent, Bennett has the opportunity to improve the roadway network in line with and fully understanding the anticipated influx of roadway users as development progresses. This is not typically the case in more urban communities where development necessitates infrastructure upgrades in areas of constrained right-of-way.

Given the Town's current size and available space, this plan has the benefit of providing staff with an understanding of exactly what types of roadway improvements, functional classifications, volume and capacity expectations, and right-of-way needs for completely new roads as well as improvements to roads at their most basic (gravel surface) implementation.

Figure 6 below illustrates known/anticipated development locations (at the completion of this plan) throughout the Town based on a 3-, 5-, and 10-year timeline of development. Bennett has become a focal point for the development community given its available land and proximity to job centers in Aurora, Denver, and beyond.

The development of this MTP benefitted from traffic impact analyses previously completed for each known development site. This information is summarized in connection with the roadway network in Chapter 3, however, key considerations that outline the development opportunities in Bennett are listed below.

High-level preliminary estimates based on projects currently in the planning process (initial

conversations with staff, formal applications, zoned, final plats approved, or under construction). Note: these estimates are provided as an illustrative example of the amount of potential development the current and future roadway network will be required to handle. The real estate market is volatile. Assumed and/or anticipated expectations developed today, may not be realized to the full extent in the near future.

**Single family dwelling units (20 years): 3,743**

**Multi-family dwelling units (10-20 years): 1,156**

**Square footage estimates:**

- Retail square footage: 737,000
- Warehouse square footage: 952,000
- Office square footage: 1,635,000

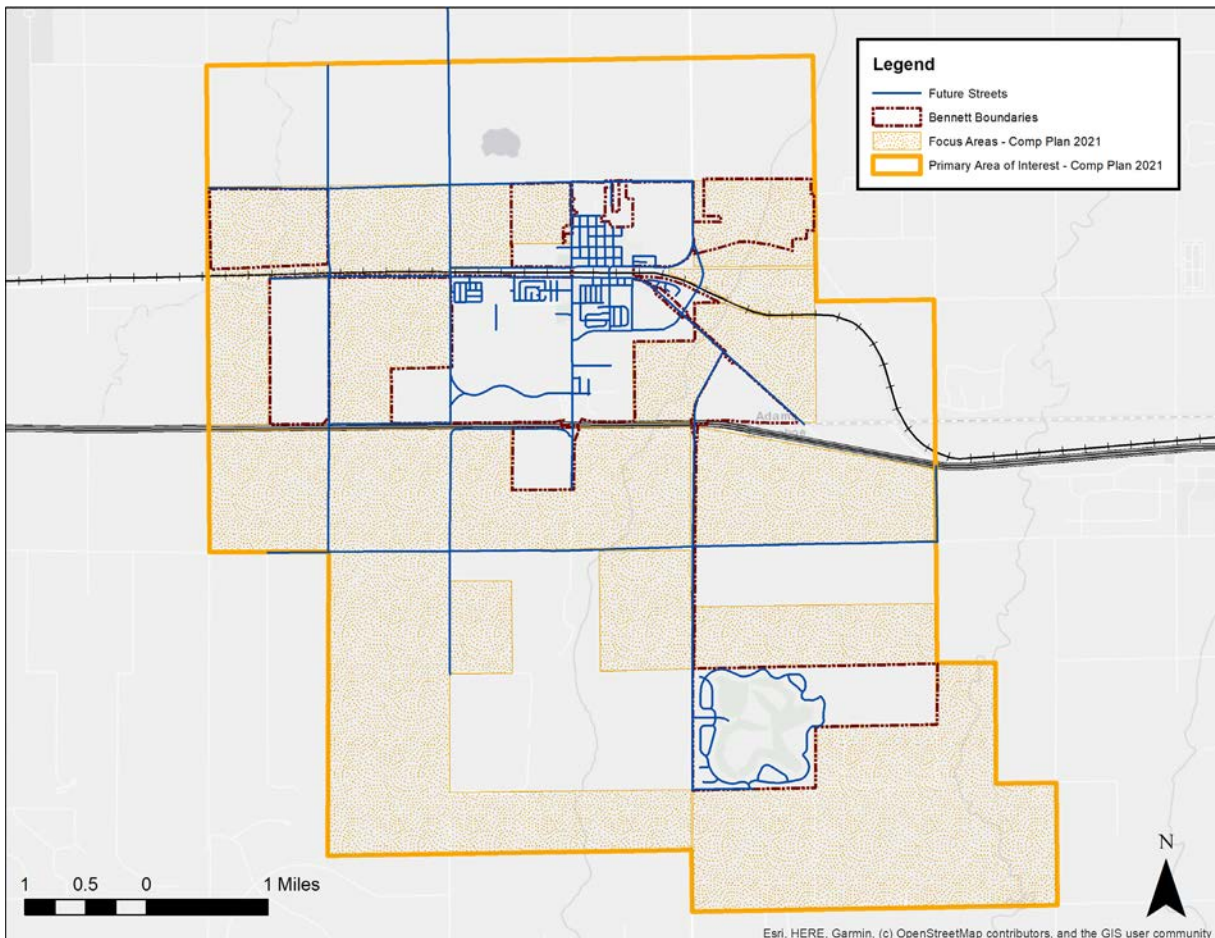


Figure 4 Future Focus Area

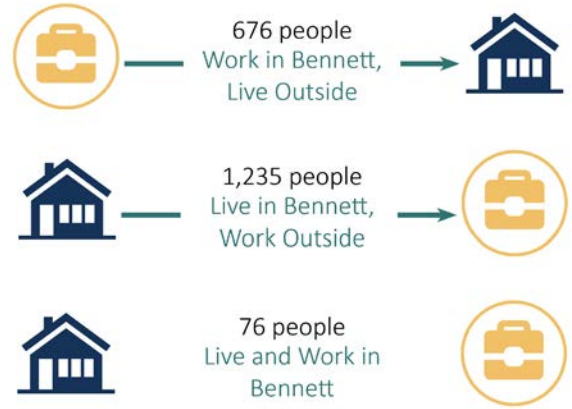


## Work Inflow & Outflow

A substantial amount of people living in Bennett travel outside the Town for work (94 percent) while a very small amount both live and work in Bennett (5.8 percent) based on 2018 data from On the Map. Almost 90 percent of the workforce in Bennett travels into the Town from elsewhere. As the population continues to grow in the Town of Bennett, this information helps illuminate the importance of continuing to provide a transportation system that promotes safe and convenient access to I-70 for travel to the greater Denver region and large employment bases in Denver, Aurora, and the interconnected surrounding areas.

## Means of Transportation to Work

Analyzing transportation-related indicators within the American Community Survey, Bennett residents rely heavily on the automobile. Most residents drive alone (78.9 percent) while some carpool (11.3 percent) with over 35 percent of occupied housing units within the Town have two vehicles available (compared to 43 percent for renter-occupied housing).



Source: On the Map, 2017

Figure 5 Bennett Work Inflow and Outflow





## CHAPTER 2 | GOALS, STRATEGIES AND ACTION

### TOWN OF BENNETT COMPREHENSIVE PLAN TO MASTER TRANSPORTATION PLAN

The Town’s 2021 Comprehensive Plan makes note that “Bennett is one of the most accessible communities in the Denver area,” pointing out that the network includes Interstate 70, US Highway 36, State Highway 79, as well as the Union Pacific Railroad. The plan also notes that the “regional highway system’s condition and functionality significantly impact the Town’s existing and future roadway systems.”

Over the last two decades, several plans and studies have been completed in Bennett that prioritize transportation as a key factor in the Town’s future success. Several studies addressing transportation needs not only informed the development of the comprehensive plan, but also helped shape this MTP.

The Comprehensive Plan not only sets the stage for

this MTP, but specifically notes that a “key next step [for the town] is creating a Master Transportation Plan... to guide the Town’s policy development, and the delivery of services, prioritize transportation projects, outline opportunities, and generate a strategic action plan for the next ten years.” The MTP is also focused on reviewing and outlining expansion opportunities for roadway, transit, and other cutting-edge transportation opportunities, including a multi-modal transportation network of bike lanes and trails and future public transit elements.

### MTP GOALS, STRATEGIES AND ACTION

Included in the Comprehensive Plan is the identification of an Achievable Goal and an associated Key Strategy and Catalyst Action. Each of these are included below.

- **Achievable Goal:** To provide a safe, efficient, and connected multi-modal transportation network.
- **Key Strategy:** Improve vehicular access, traffic circulation and public safety and interstate highway

interchanges accessing Bennett.

- **Catalyst Action:** Completion of a master transportation plan for the Town of Bennett and incorporating the plan into the Town’s GIS system.

Given the fact that the community already worked through a process to develop a goal related to the transportation network and identified a set of key strategies to meet that goal, the project team utilized this initial set of information to engage with community members to identify more detail that would help guide the planning process further. A full account of engagement is included in the MTP Community Engagement supplemental document.

Figure 6 to the right, highlights the ranking identified by participants. The Safety and Connectivity elements of the achievable goal are clearly important to residents, followed by efficiency and multi-modal improvements. It is generally assumed that general familiarity with the term “multi-modal” may have been part of the reason for the differentiation among that element and the higher ranked items. This is understandable. Based on the results of the community transportation questionnaire (detailed and summarized below) vehicular use is the predominant means of transportation in and throughout the Town, and modes such as walking, and bicycling are substantially less utilized.

## COMMUNITY ENGAGEMENT QUICK SUMMARY

A key factor in any successful planning process is deliberate and consistent community engagement throughout the development of the plan. Summarized below are key activities for formal and informal community engagement that informed the resulting MTP. A detailed account of MTP engagement activity outcomes is outlined in the MTP Community Engagement supplemental document.

The predominant amount of community input came through the use of a community questionnaire. The

questionnaire was posted to the project website and available in the Spring of 2022. Respondents were asked a variety of questions regarding their current travel behaviors, the perceived safety of different modes of transportation, commuting patterns and factors that influence the safety and efficiency of the transportation network.

*Of particular note is the fact that of the questionnaire responses, 100 percent of responders indicated that driving alone was their primary form of travel within and outside of Bennett.*

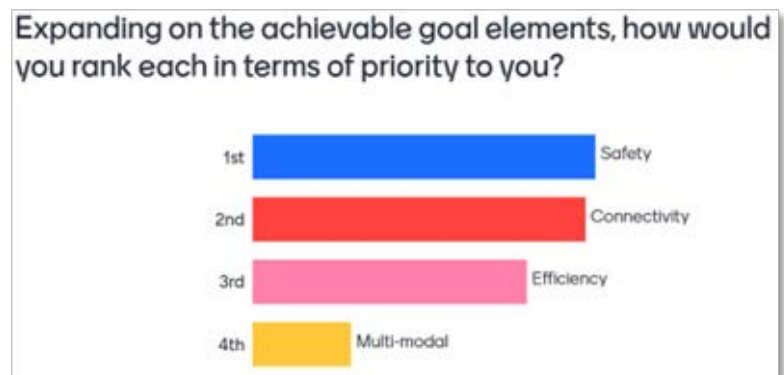


Figure 6 Achievable goal elements ranking



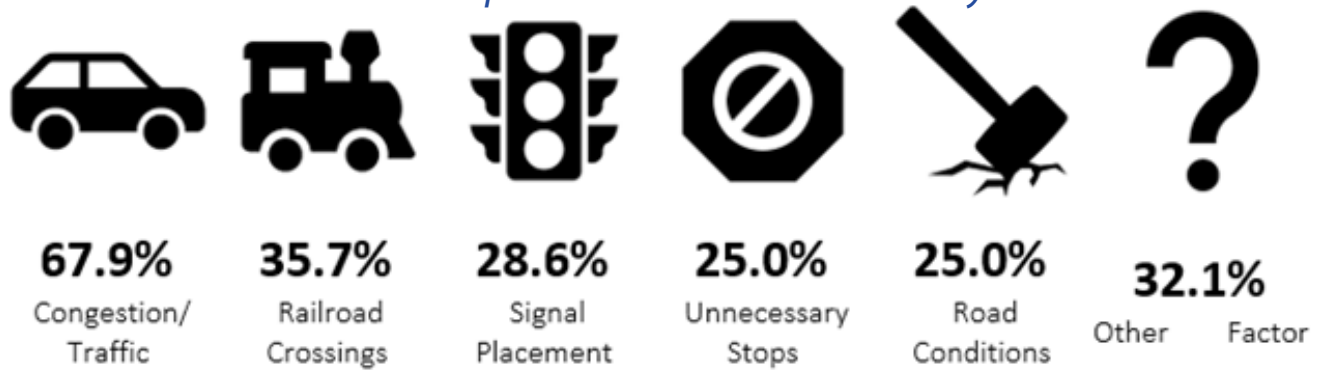
Figure 7 Town of Bennett Comprehensive Plan (2021) - Transportation Section

## User Safety Poll

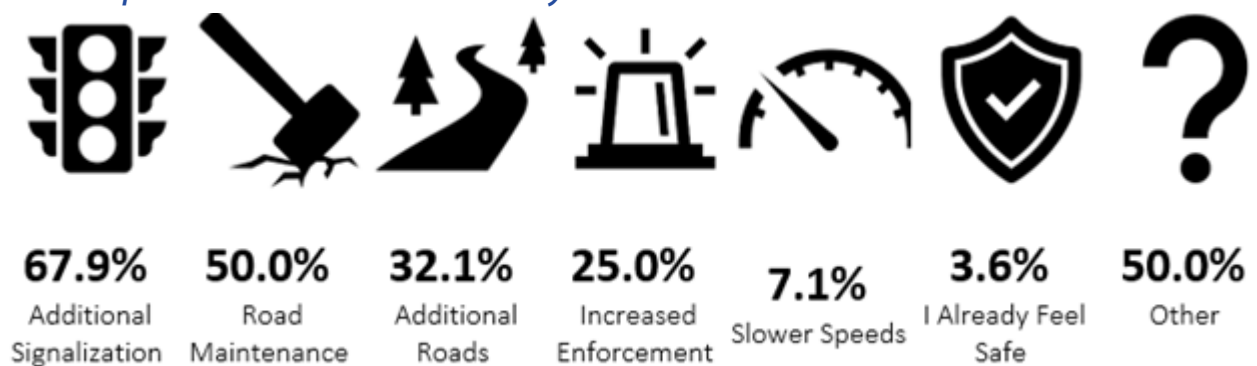
Responses to the questionnaire indicate concerns with the overall safety of the transportation network for all types of users. Indicated below, respondents ranked each mode as unsafe, with bicycling being the least safe mode of transportation in Bennett.



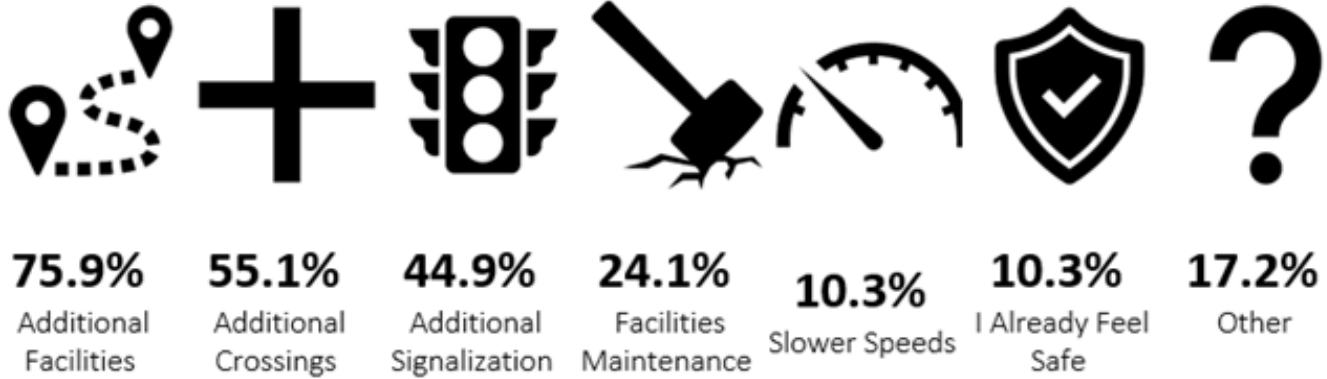
### What factors hinder the transportation network's efficiency?



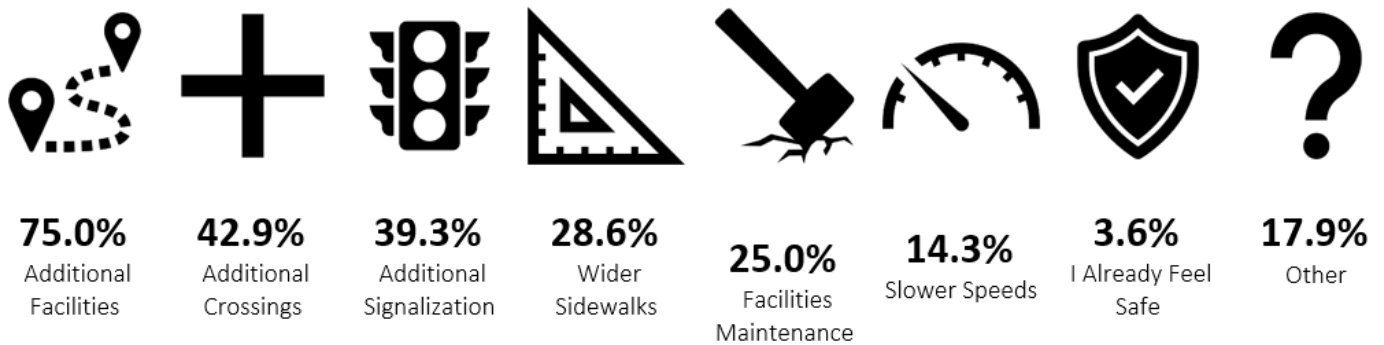
### What improvements would make you feel safer as a driver?



### What improvements would make you feel safer as a pedestrian?



### What improvements would make you feel safer as a bicyclist?



### How long is your typical commute?

While most respondents indicated a commute time over 30 minutes, it is likely this is from residents that commute to work over longer-distances to the metro area and beyond. It is important to note that 25 percent of respondents indicated they don't commute (due to working from home or not working at all). This question does not differentiate between work commute and short trips within the community.





## CHAPTER 3 | PROJECTIONS: POPULATION, EMPLOYMENT AND HOUSING

This core purpose of this plan is to develop an estimate of needed roadway improvements taking into account not only existing conditions, but also anticipated conditions that will ultimately have an impact on the Town’s roadway network. While not summarized within this plan, a full account of Bennett’s existing conditions can be reviewed within the Existing Conditions supplementary document.

This plan contains and considers household population and employment projections through the year 2040 that use DRCOG forecasts as a baseline level of analysis for potential impact on the transportation network – both locally and regionally. The plan also incorporates input from Town staff based on known development projects, current zoning, and local development policies and aspirations. This process is believed to be more reflective of current trends and local policies than the regional forecast and was substantially analyzed and discussed in the development of the future roadway network for the Town.

### **DRCOG POPULATION AND EMPLOYMENT PROJECTIONS SUMMARY**

The figures below depict population and employment by transportation analysis zone (TAZ) – a unit of analysis similar to a Census block group used for regional transportation planning purposes – for the

years 2020 and 2040, as well as growth rates from 2020-2040. TAZ-level forecasts are developed by DRCOG for the entire Denver metropolitan area; projections for the Bennett area were developed by DRCOG in consultation with the Town of Bennett, Adams County, and Arapahoe County. There is an inherent level of uncertainty in predicting actual growth by location. As such, the future year maps included below should be referenced for understanding general growth patterns across Bennett and the surrounding area and the development potential that has been currently identified. It is also important to note that TAZs are not consistent with jurisdictional boundaries and that population and employment forecasts are limited regionally based on defined county-level control totals coordinated with the State of Colorado’s Demography Office.

Also, important to note is that TAZ level population projections are bound by county control totals developed by DRCOG staff in conjunction with the State Demography Office. This is to say that although Bennett’s projections may be higher, and any extrapolation from anticipated development may infer higher increases in both population and employment, for regional transportation planning purposes, regionally forecasted amounts cannot exceed these control totals.

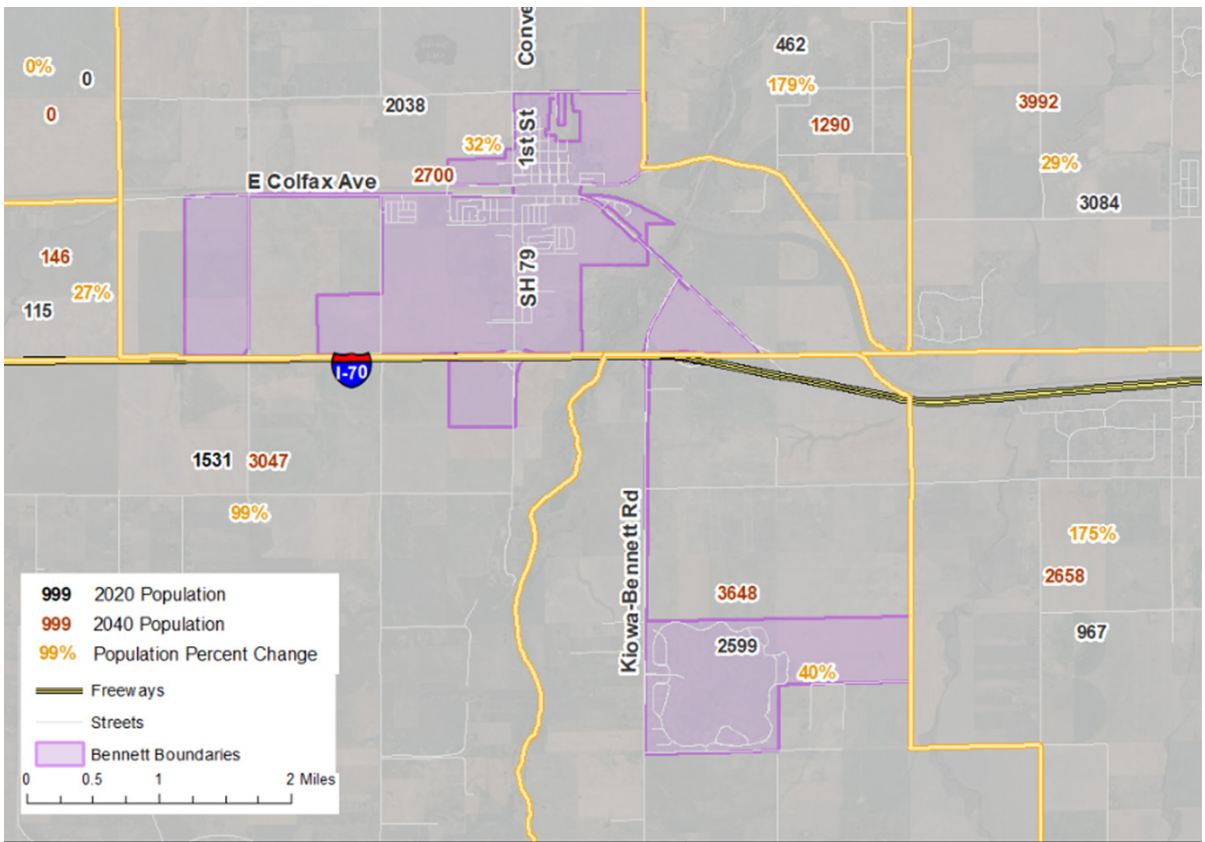


Figure 8 DRCOG 2020, 2040 Population Estimates by TAZ

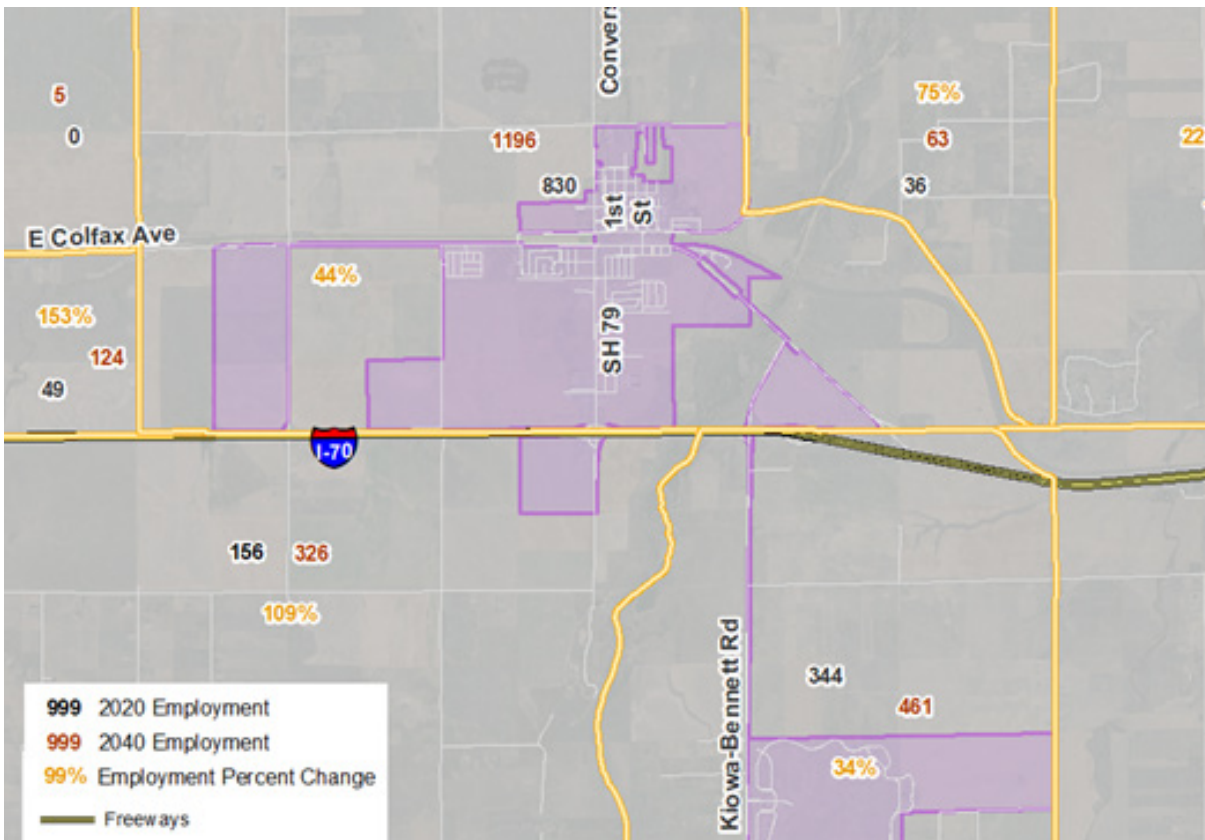


Figure 9 DRCOG 2020, 2040 Employment Estimates by TAZ

# TOWN OF BENNETT POPULATION AND HOUSEHOLD PROJECTIONS

According to the Town’s 2021 Comprehensive Plan update, the Town estimates at least 1,200 acres of undeveloped land potential. While developing the Capital Asset Inventory and Master Plan (CAIMP) system, the town noted that the potential for residential and commercial growth is significant based on three major contributing factors (as also seen across the state):

- The current and increasing population growth in the State;
- The expansion and population increase in Metro Denver; and
- Housing prices that push potential buyers into surrounding areas, like Bennett.

This development opportunity is further exemplified by the Town’s housing absorption rates over the last three years. At the end of 2020, 80 percent of 250 newly platted home sites had obtained

certificates of occupancy. In 2021, the Town noted five different residential developments in various stages of construction accounting for 948 platted lots and 129 certificates of occupancy. The 2021 housing absorption rate mid-way through 2021 was calculated to be at roughly 14 single-family equivalents per month. Extrapolating this noted absorption rate and coupling it with the identified available land for absorption and the population forecast in 2029 (12,581), the Town of Bennett anticipates absorbing roughly 4,358 single family equivalent units by 2030. The Town’s development absorption map is available in Figure 6, Chapter 1.

While flux in the housing market along with potential continued supply chain issues and workforce shortages due to the pandemic can affect resulting development in the community, it’s important to note the potential increase in population based on average household size and the proposed housing development in the Town. The table below provides an illustrative example of what development anticipations could produce by 2040 with all inputs remaining constant.

*Table 1 provides an illustrative example of what unimpeded development anticipations could produce by 2040 with all inputs remaining constant.*

2020 Average Household Size	2.78
2020 Number of households	1047 households
2040 Anticipated additional number of households (based on current available information on development pipeline)	6005 households
2020 Current population	2,862 residents
2040 Projected Increase in Population (based on development)	19,605 residents
2040 Total Projected Population (based on development)	22,467

*Table 1 Population Projection Example*



# IMPLICATIONS OF PROJECTIONS AND COMMUTING DATA

Noted previously in this chapter, a detailed understanding of the anticipated development in the Town helps provide a clearer understanding of the future needs of the roadway network – what infrastructure upgrades are needed, and what new infrastructure needs to be planned for and implemented. The bullet points included below include some of the questions town staff, stakeholders and the consulting team worked through in the development of the future roadway network.

- Will development increase in commute times?
- Without prioritized and phased improvements to the roadway network, how and where will congestion occur?
- Will Bennett continue to export residents to external job sites and import workers for service and retail jobs?
- What are the implications and opportunities not only for accessing the regional network, but also for future transit investments in the area/region?
- How should local trips be protected?
- What destinations need elevated access and what connections are critical to maintain?
- What happens if/when housing patterns shift, higher-income professionals move to Bennett, hybrid work environments persist, and commercial retail expectations change?
- An over-abundance of the single-family housing type can affect commuting patterns and create a reliance on single-occupancy vehicle travel – limiting the effectiveness of potential transportation investments in the future. This can limit the effectiveness of potential transportation investments undertaken by the Town of Bennett.

Are there proposals in the pipeline for multi-family housing? This type of housing will make Bennett more adaptive and more resilient to future changes in the housing and transportation realm largely the connection to pressure on the transportation system.

Since the current majority of employed residents in Bennett commute to work, transportation investment priorities are twofold. First, transportation investments should support regional travel needs including improved roadway connections to regional arterial roadways. The development of connections to regional bicycle networks will also provide the opportunity for Bennett residents to better access employment, and recreation, sites outside of the community. This will only be more relevant as development continues to move from the Denver metropolitan center outward toward Bennett and the surrounding communities in Arapahoe and Adams Counties. Establishing and expanding public transportation opportunities for Bennett residents and workers should also be considered. Over the long-term, Bennett may consider strengthening relationships and partnerships with the counties and RTD to expand service and create opportunities to access the rest of the metropolitan area without a private vehicle. Shuttle services and park and ride transit stations may also help connect with the regional transit system as service slowly increases.

Secondly, connectivity within the community must be enhanced to ensure the transportation system as a whole works as efficiently as possible with the substantial number of new homes expected. As discussed previously, the housing mix that Bennett ultimately sees developed will have a direct impact on the number of associated vehicles the transportation system will need to be able to manage. Not only are increased connections between and within new developments of paramount concern, but active transportation (bicycle and pedestrian) connections will also be important to shift transportation modes of internal trips within Bennett.



# CHAPTER 4 | TRANSPORTATION NETWORK

## EXISTING AND FUTURE ROADWAYS

The Town of Bennett’s roadway network serves the needs of both internal and community-adjacent residents traveling to access jobs, services, recreational sites and other destinations. This section of the plan summarizes the roadway network throughout the Town, and the current and recommended long-term roadway networks by road type (i.e. functional classification). For a detailed account of the analysis completed to develop this plan, including traffic estimates, capacity analysis, etc., please see the Transportation Network Analysis Supplement.

### Current Functional Classification

Functional classification refers to a road network hierarchy based on the level of mobility and access provided. Typically, higher category roads such as

freeways and arterials provide more mobility and less access while lower category roads such as collectors and local streets provide less mobility and more access.

Bennett has historically coordinated roadway functional classification with the Town Board of Trustees adopted Bennett Roadway Design Standards, specifically, Chapter 4, Section 4.2.2 Roadway Classifications and Specifications. At the onset of this planning process, the currently adopted roadway classifications were used as a starting point. The table (and subsequent map) below provides an overview of the general requirements of each classification..

*Note: The Town originally also had residential and non-residential classifications for collectors, however these were not defined in the currently adopted Roadway Design Standards document. It did appear that these classifications were related to context alone and did not necessarily require changes in design.*

Functional Classification	Traffic Volumes	Speed	Number of Moving Lanes
Local	Less than 1,500 vehicles per day	25 mph	2
Collector	1,500 to 7,000 vehicles per day	35 mph	2
Entry Street	n/a	25 mph	n/a
Arterial	7,000 to 12,000+ vehicles per day	45 mph	4

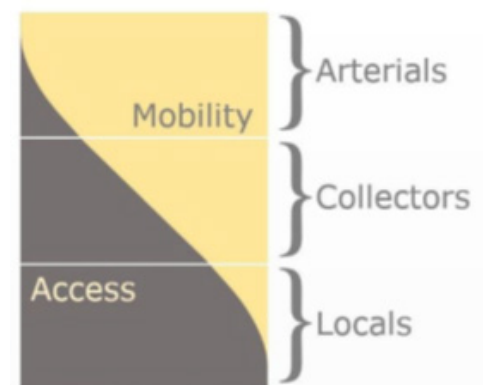


Table 2 Currently adopted basic roadway design criteria (December 2018)

Source: FHWA, COMPASS (Idaho) Page 58

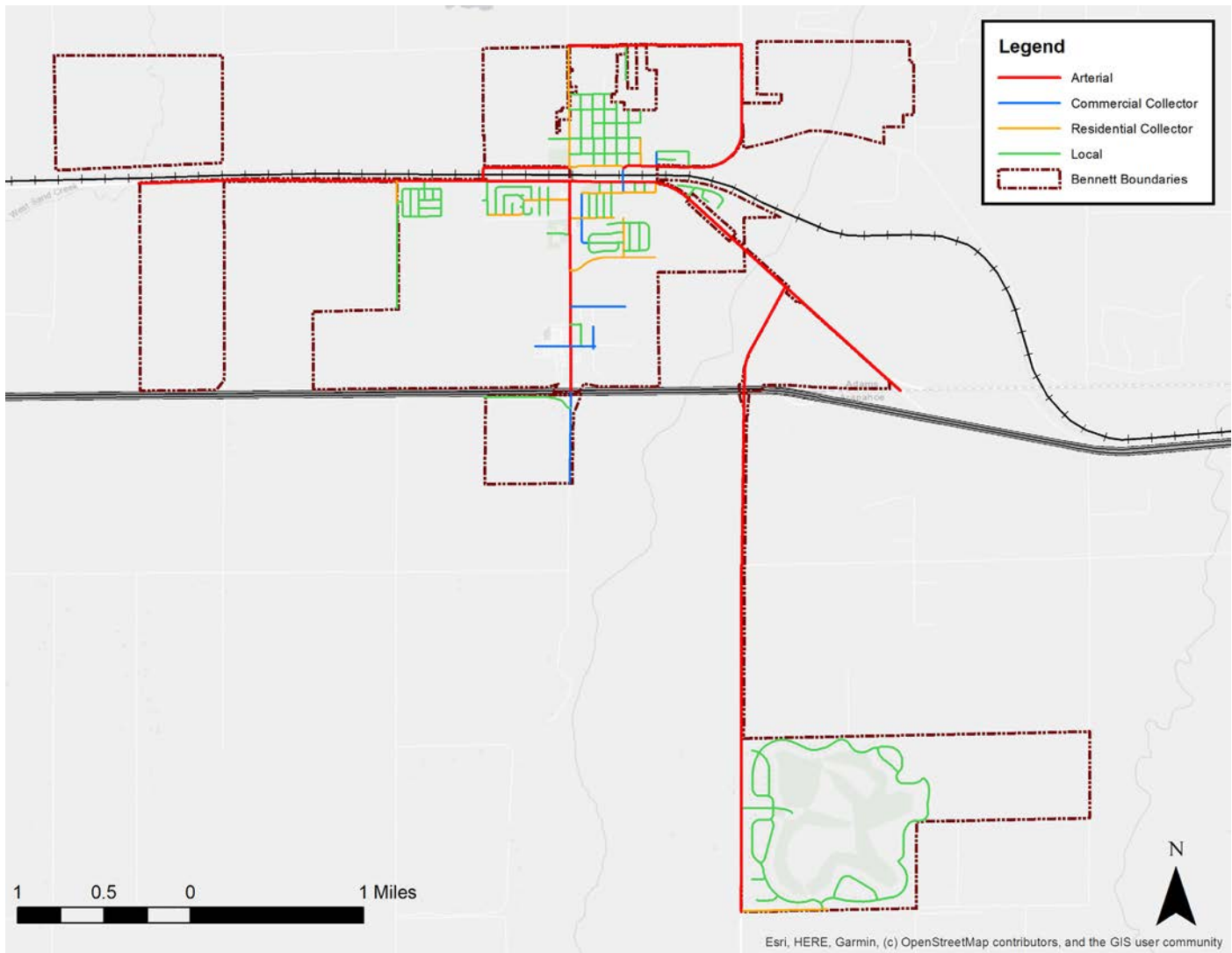


Figure 10 Current Functional Classification

**Recommended Classification and Network Build Out**

Adopted in December 2018, the current Roadway Design and Technical Criteria document outlines the following roadway functional classifications in the Town:

- Local – provide direct access to adjacent property.
- Collector – distribute traffic between arterial and local streets.
- Entry Streets (considered lower than a collector) – used when collectors are not appropriate connections between arterial and local streets.

- Arterial – permit relatively unimpeded traffic movement

Based on the Town’s current classification map, Collector streets are also further delineated between residential and commercial applications, however design standards do not dictate a difference in implementation.

The analysis outlined in the Transportation Network Analysis supplement necessitated an update to the functional classification and design criteria the Town will need to use moving forward. Given the amount of anticipated development, the estimated increase in vehicular movement, the estimated capacity changes of the current roadway

network, and the general availability of right-of-way, it is recommended that the Town adapt their current functional classification and design criteria to a more robust and standardized set moving forward. The updated classifications are outlined below and include details for number of lanes and volume ranges. The table also includes the currently adopted details for comparison's sake.

It should be noted that the volume ranges provided in the recommended classifications are meant to provide Town staff with flexibility in determining

future roadway classifications for the Town. These recommended classifications are based on rural guidelines provided by the [Federal Highway Administration](#).

The recommended functional classifications applied to the current anticipated network build-out for the Town of Bennett is illustrated in the map provided in Figure 12 below. Estimated future volumes and anticipated capacity constraints were used to identify classifications appropriate for the extent of the Town's roadway network.

	Lanes	Volumes (per day)	Speed	Minimum ROW
<b>Current Classification</b>				
<b>Arterial</b>	4	7,000 to 12,000	45 MPH	110 feet
<b>Collector</b>	2	1,500 to 7,000	35 MPH	65 feet
<b>Entry</b>	2	1,500 to 7,000	25 MPH	65 feet
<b>Local</b>	2	less than 1,500	25 MPH	50 feet
<b>Proposed Classification</b>				
<b>Principal Arterial</b>	4	2,000 to 8,500+	45 MPH	110 feet
<b>Minor Arterial</b>	4	1,500 to 6,000	45 MPH	95 feet
<b>Major Collector</b>	2	300 to 2,600	35 MPH	84 feet
<b>Minor Collector</b>	2	150 to 1,110	35 MPH	67 feet
<b>Local</b>	2	15-400	25 MPH	52 feet

Table 3 Recommended Classification Detail - Current and Proposed



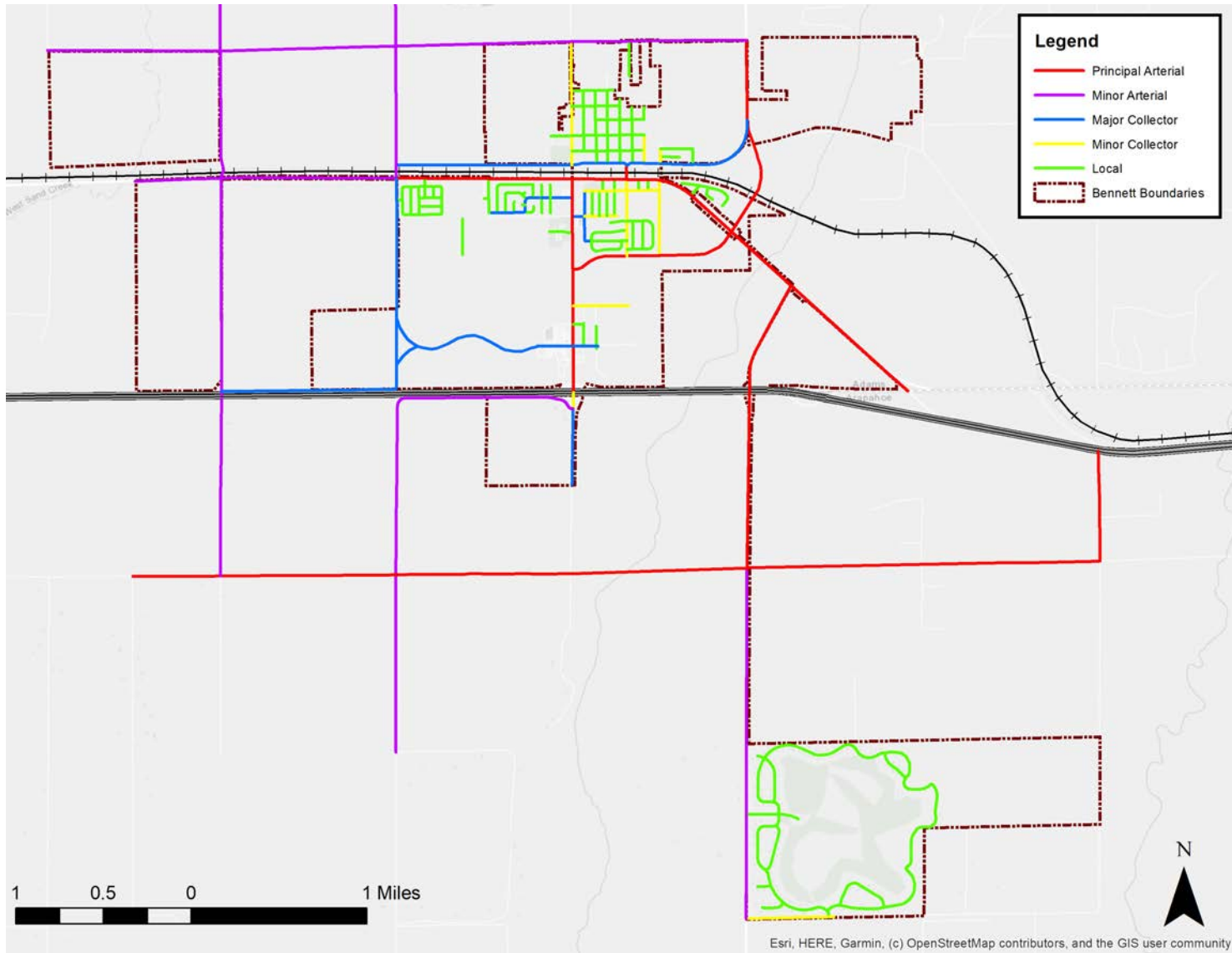


Figure 11 Recommended Functional Classification and Future Roadway Network Build Out

# ACTIVE TRANSPORTATION NETWORK

The active transportation network in the Town of Bennett will expand over time with development growth to provide greater mobility across the Town. Active transportation considerations are recommended to be included as the transportation network is improved and built out over the next 20-plus years. A major priority in this implementation is to not only connect residential areas to major destinations and increase access to a wide variety of parks and recreational facilities, but to also consider what has already been implemented and planned for the future.

The active transportation network will feature a system of multi-use trails, on-street bike lanes, and sidewalks, and will be expanded through multiple approaches:

- Public investment projects that enhance facilities as part of roadway improvements.

- Public investment projects that implement dedicated bicycle and pedestrian improvements as needed with the pace of growth in town.

- Privately funded roadway enhancements and widening projects that take place as new development occurs.

In accordance with the Roadway Design and Technical Criteria guidance updated and further developed as a part of this plan (see Chapter 5, Recommendations and Implementation), on-street bicycle facilities should be located along all roadways with the exception of principal arterials (where bicycle infrastructure is provided via the implementation of an off-street multi-use trail). Sidewalks and multi-use trails should be provided along all roads, including local roads and design decisions should consider the context of implementation.

In many cases, on-street bike lanes and multi-use trails are proposed along the same corridor to provide facility options that appeal to a wide range of users. Trails along major roads are meant to be complemented with connections to in-place and planned local/regional trails as available.



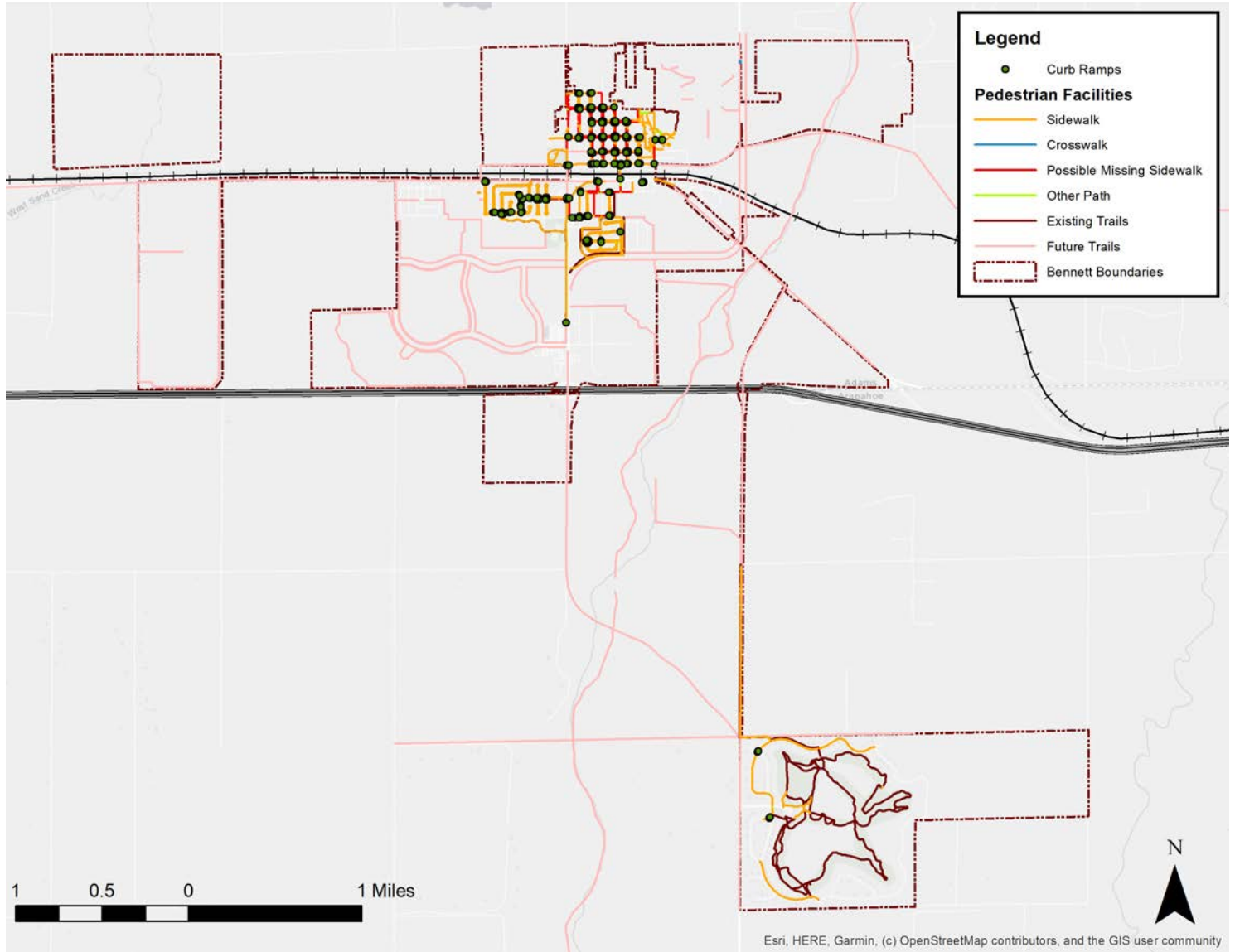


Figure 11 Current and Planned Pedestrian and Bicycle Facilities





# CHAPTER 5 | RECOMMENDATIONS AND IMPLEMENTATION

## OVERVIEW

The Bennett MTP provides a blueprint for a comprehensive transportation network that accommodates the levels of growth anticipated, enables residents and visitors to travel efficiently through Town, and supports a high quality of life. The following section outlines the recommendations and steps the Town can take to further develop the transportation system, including updates to and the further application of the Town’s Roadway Design and Technical Criteria policy.

The long-term success of the plan will depend on actions at the local and regional levels and the involvement of the private sector to ensure a shared vision for the Town’s ensuing transportation system. Implementation considerations for the Town of Bennett involve investments in key corridors identified in this plan and continued reference to the design and technical criteria policy as implementation occurs. Additionally, the Town must also continue to participate in regional planning efforts to create opportunities to access federal funding and ensure that Town priorities are accounted for as part of regional policy decisions.

## REGIONAL COORDINATION

### Planning and Data Development

Aside from the inclusion of the data developed for this MTP into the Town’s current Capital Asset Inventory Management Plan (CAIMP), this plan contains a series of products and information that should be incorporated into the regional transportation planning process led by the Denver Regional Council of Governments (DRCOG). These products include:

- Functional classification update: Bennett staff should coordinate with DRCOG to incorporate the designations contained in the Town’s long-range roadway network into the regional functional classification system. The current regional functional classification system does not accurately reflect the current or anticipated role and travel demand within Bennett and the connections to adjacent jurisdictions.
- Socioeconomic forecast: Bennett staff should coordinate with DRCOG to incorporate the socioeconomic data developed for this plan and utilized to determine future roadway network



needs. This plan notes the discrepancy between currently developed TAZ-level population and employment forecasts for Bennett.

### **Regional Roadway Planning**

- The regional nature of commuting patterns identified through the development of this MTP demonstrates the need to coordinate with nearby local agencies, CDOT, and DRCOG on transportation improvements on roadways that are either outside of Town limits or not under direct control of the Town of Bennett, but directly affect Town residents.
- Anticipated congestion and the need for infrastructure improvements along roadways such as E. Colfax Ave., and SH79 further necessitate coordination with CDOT along these state-owned and managed facilities.
- Likewise, coordination with Adams County and Arapahoe County will be necessary for seamless improvements and implementation planning for roadways such as E. 38th Ave, Harback Rd., Penrith Rd. E. 6th Ave and connections adjacent to Kiowa-Bennett Rd.

### **Project Development and Access to Federal Funding**

- Town of Bennett staff should continue to coordinate with DRCOG and participate in technical committees and sub-regional forums on available funding opportunities and identify the transportation projects included herein that are most likely to be competitive for federal funding.
- Bennett staff should be directly involved in all discussions related to the allocation of federal funding within Adams and Arapahoe Counties.

## Regional Transit Planning

Given Bennett's proximity to the metro region, and the current extent of the Regional Transportation District's (RTD) service boundary, the Town's transit options are limited, however future opportunities are on the horizon.

- The Town should coordinate with RTD on potential extension of transit service to the Bennett area as incremental planning activities are undertaken. As growth and development continues to increase in the Town transit service expansion will be an important strategy for the community to consider for increasing transportation options and reducing the dependency on single-occupancy vehicles

– 100 percent of respondents to the transportation questionnaire indicated they commute to work alone, and of commuters, almost 30 percent indicated their commute is 30 minutes or longer.

In anticipation and consideration of service expansion to the eastern portion of the Denver metropolitan area, the Town of Bennett has already begun a preliminary investigation into the coordination of anticipated growth and potential park and ride locations considering potential access points to I-70. The map provided below outlines this preliminary investigation for future consideration as the provision of transit becomes more viable in this part of the region.

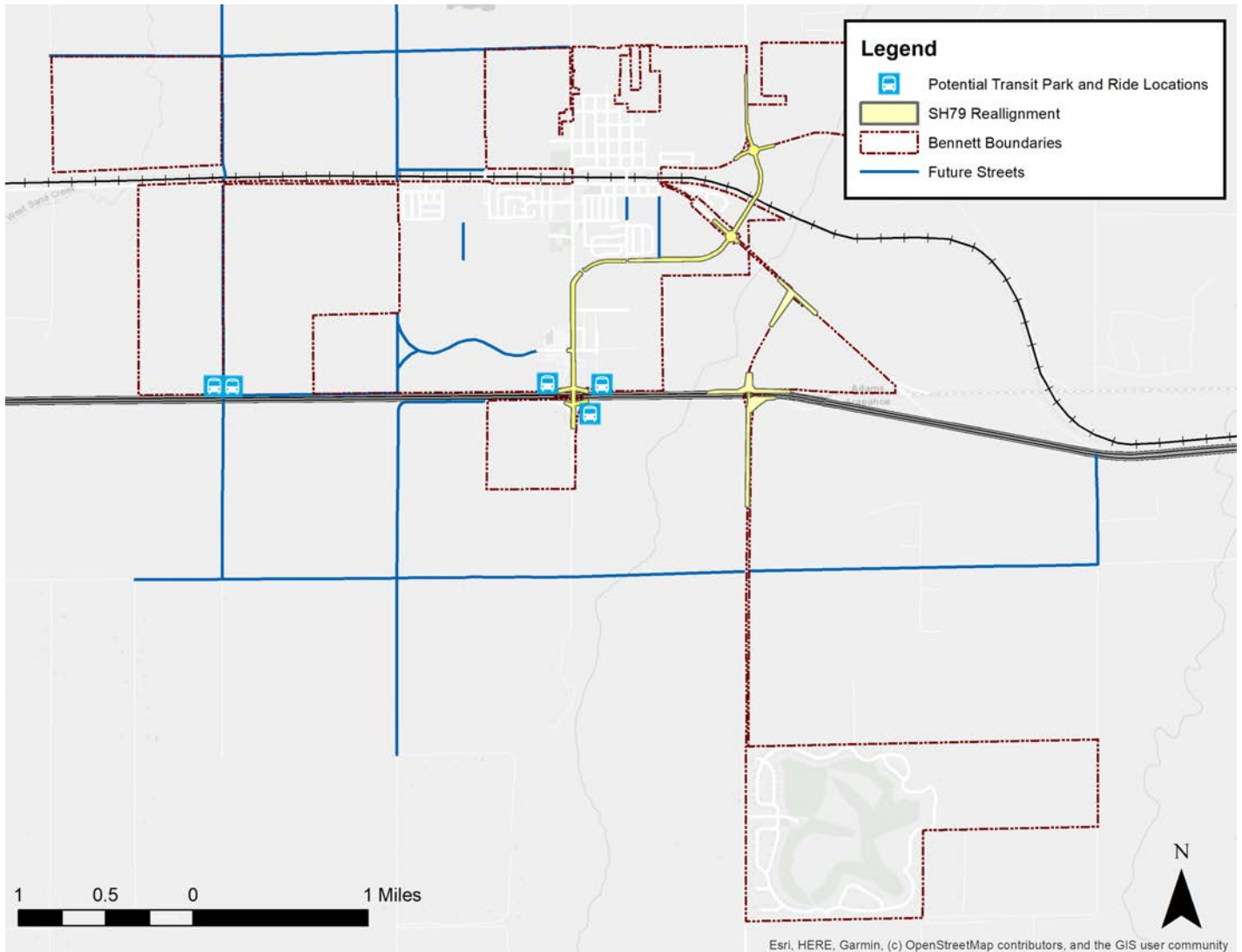


Figure 12 Preliminary/Potential Transit Park and Ride Locations

# BASIC ROADWAY DESIGN STANDARDS: CONSIDERATIONS FOR FUTURE IMPLEMENTATION

Roadways are critical facilities that are integral to people’s daily lives. Because people rarely live, work, shop and play in the same place, roadways connect people to jobs, important services like healthcare, social networks, and recreational opportunities. Whether someone is walking, bicycling, riding transit, or driving, roads are what take people from their origin to their destination. In addition to their role establishing connections, roadways can define the character of a place and contribute to a sense of community identity. Roadway design must also address the safety needs of all individuals and ensure that road users of all modes, ages and abilities can reach their destination conveniently and safely.

An illustrative example of the updated roadway design standards is included below. For a full account – including detailed information on roadway widths, right of way needs, bicycle and pedestrian amenities, etc., please see the Basic Roadway Design Standards Supplement. This document presents both required and recommended features for roadways in the Town of Bennett based on their anticipated traffic volumes and general purpose. The roadway type definitions and design considerations included in the document will ensure that all new or improved roads have consistent dimensions and elements and can safely accommodate travel by road users of all travel modes, ages, and abilities. Because the purpose of a given roadway is influenced by adjacent land uses, this document also defines different land use types and provides guidance about desired or necessary roadway elements based on the land uses adjacent to the roadway. Finally, this document contains guidance on factors that affect roadway operations, including access management and potential traffic calming options based on roadway type and land use context.



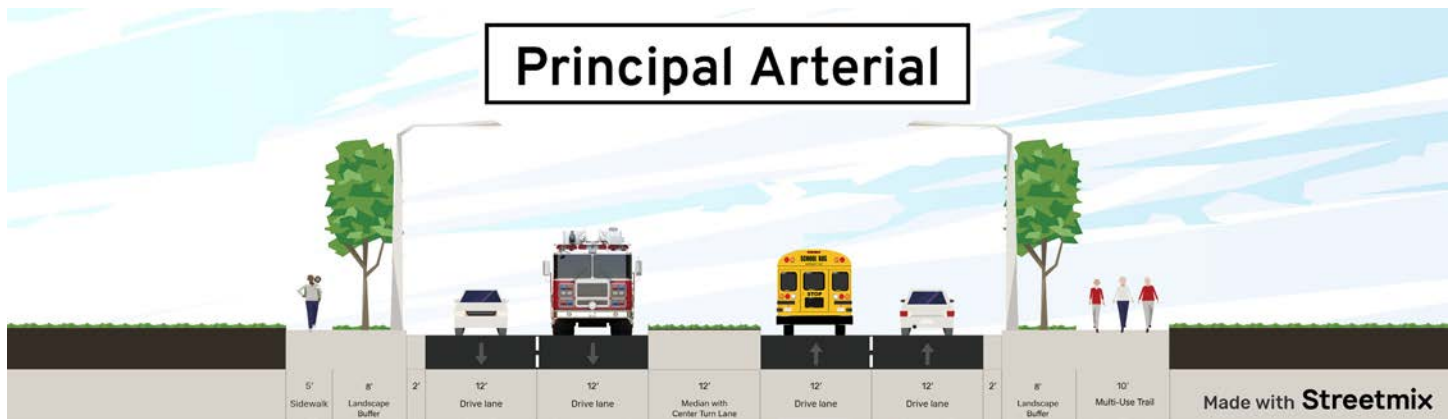


Figure 13 Principal Arterial with Raised Median

## ROADWAY TYPES

### Principal Arterial

**Definition:** Principal arterials typically serve longer-distance local and regional trips and are intended to carry the largest volumes of non-Interstate roadways at generally higher speeds (i.e. design speed of 45-55 MPH). These roadways generally prioritize vehicle throughput over providing access to adjacent parcels.

**Design Considerations:** Principal arterials shall feature curb and gutter and should include either a continuous turn lane or raised landscaped median, depending on implementation context. Principal arterials may have as many as four travel lanes (two lanes in each direction) with turning lanes at appropriate intersections. Within the Town of Bennett, principal arterials should not include bicycle amenities, however, should include considerations for a detached sidewalk and multi-use trail separated from vehicle traffic by a landscaped buffer.

## COST ESTIMATES AND PHASING

### Cost Estimates

Completing the build-out of the Town roadway network will require substantial capital investments as well as ongoing funding for road maintenance and operations. To assist in budgeting for these

anticipated expenditures, preliminary costs were developed for the various roadway types consistent with design guidance requirements. Costs shown in the Project List section below consider capacity and impact of expected traffic volumes when applying a cost to materials for various roadway types. All costs are based on the per linear mile cost of new roadway construction with the assumption of asphalt pavement and where applicable, the inclusion of a turn lane (collector and above). Please find the detailed set of preliminary cost estimates by roadway type in the Cost Estimates Supplement – an illustrative example is provided in the accompanying table.

### Phasing and Prioritization

Noted in the Town of Bennett Comprehensive Plan (2021), “a primary focus of Bennett infrastructure is to plan, protect and construct sustainable and resilient infrastructure for current and future residents.” Building on the development of the Town’s 2019 Capital Asset Inventory Master Plan (CAIMP) framework, projects identified for future consideration and implementation within this plan, follow the same prioritization process as the projects currently included in CAIMP.

General guidance for prioritization in this system include the following:

<b>Principal Arterial with Median</b>	<b>Per Linear Foot</b>	<b>Per Linear Mile</b>
Asphalt Pavement with Landscaped Median	\$ 670.00	\$ 3,537,600.00
Asphalt Pavement with Hardscaped Median	\$ 940.00	\$ 4,963,200.00
Concrete Pavement with Landscaped Median	\$ 980.00	\$ 5,174,400.00
Concrete Pavement with Hardscaped Median	\$ 1,250.00	\$ 6,600,000.00
<b>Miscellaneous Items</b>	<b>Per Linear Foot</b>	<b>Per Linear Mile</b>
5' Concrete Sidewalk	\$ 50.00	\$ 264,000.00
6' Concrete Sidewalk	\$ 60.00	\$ 316,800.00
10' Concrete Trail	\$ 100.00	\$ 528,000.00
12' Concrete Trail	\$ 120.00	\$ 633,600.00
Striped Bike Lane	\$ 1.50	\$ 7,920.00
12' Asphalt Travel Lane	\$ 80.00	\$ 422,400.00
12' Concrete Travel Lane	\$ 150.00	\$ 792,000.00

*Table 4 Cost by Roadway Type Estimate Example*

### *Condition, Criticality, and Capacity*

- Each in this category is prioritized based on a standardized rating scale. A rating of 1 equals the asset is in worst condition or doesn't currently exist, whereas a rating of 5 equals in great or new. In general, those that are rated most crucial have a capacity rating of 0-10 percent and those assets that are rated least critical have 90-100 percent capacity remaining.

### *Community Care*

- The community care prioritization scale ranks the asset based on health and safety needs, sustainability, community service, planning, or neighborhood character.

### *Co-Worker*

- The co-worker prioritization scale adds rating to assets based on the health and wellbeing of employees, production or process improvements, development, legacy, and enhancement.

In all cases, the lower the score, the higher the priority.

In addition to the implementation of prioritization ranking for each identified transportation-related project in this plan, a preliminary analysis of project phasing was developed. The maps included below attempt to identify a grouping of projects based on the "trigger" of development implementation to plan for or "phase" roadway improvements in the future. In the end, this process validated the Condition, Criticality, and Capacity prioritization ranking already developed for each project in the list and moving forward can be utilized as background or additional information to validate planning and funding considerations.

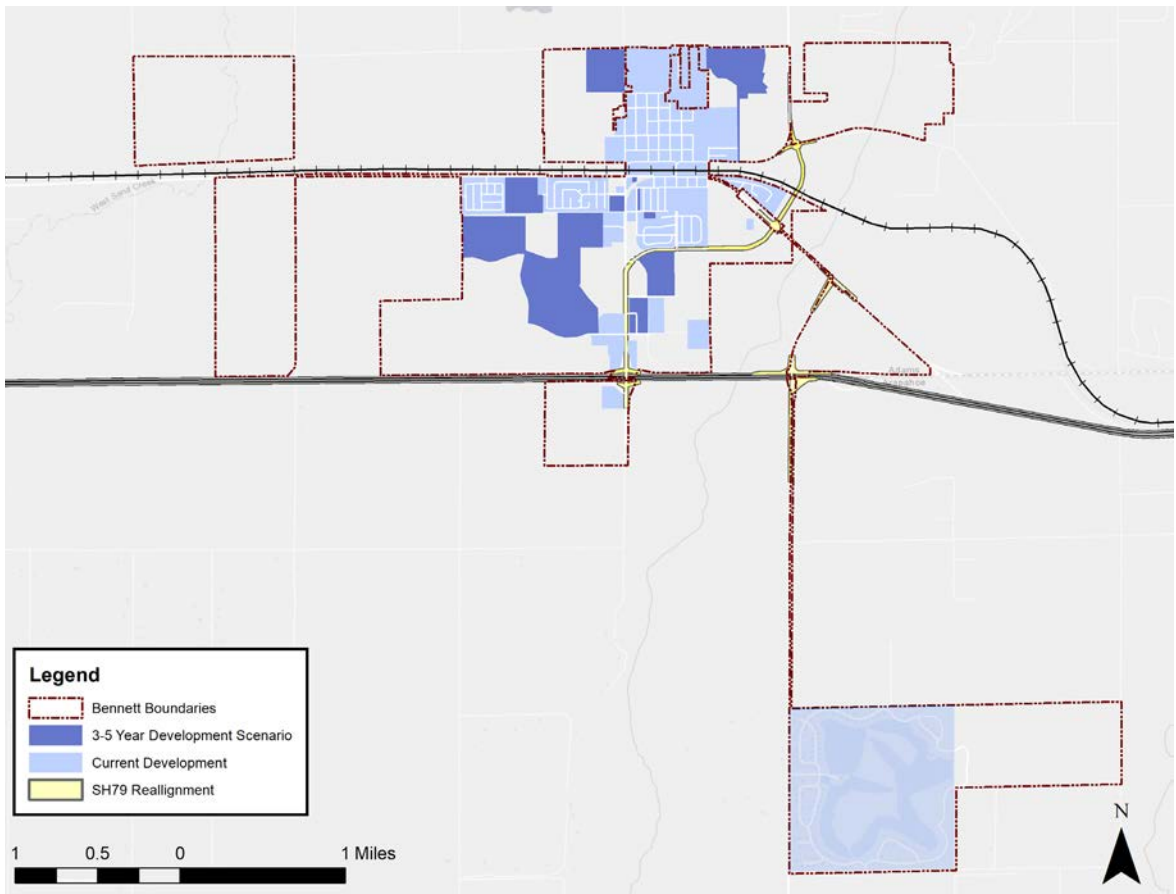


Figure 14 Development Scenario (3-5 Years)

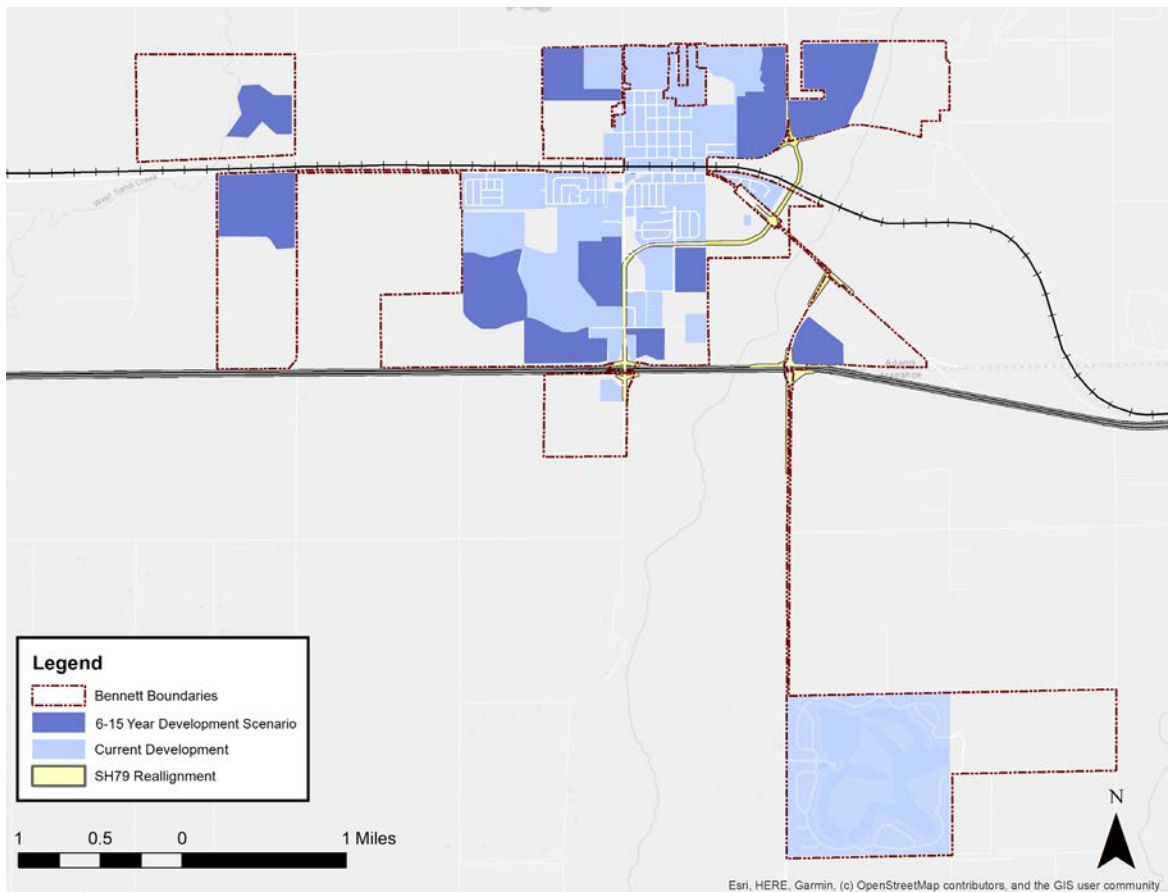


Figure 15 Development Scenario (6-15 Years)

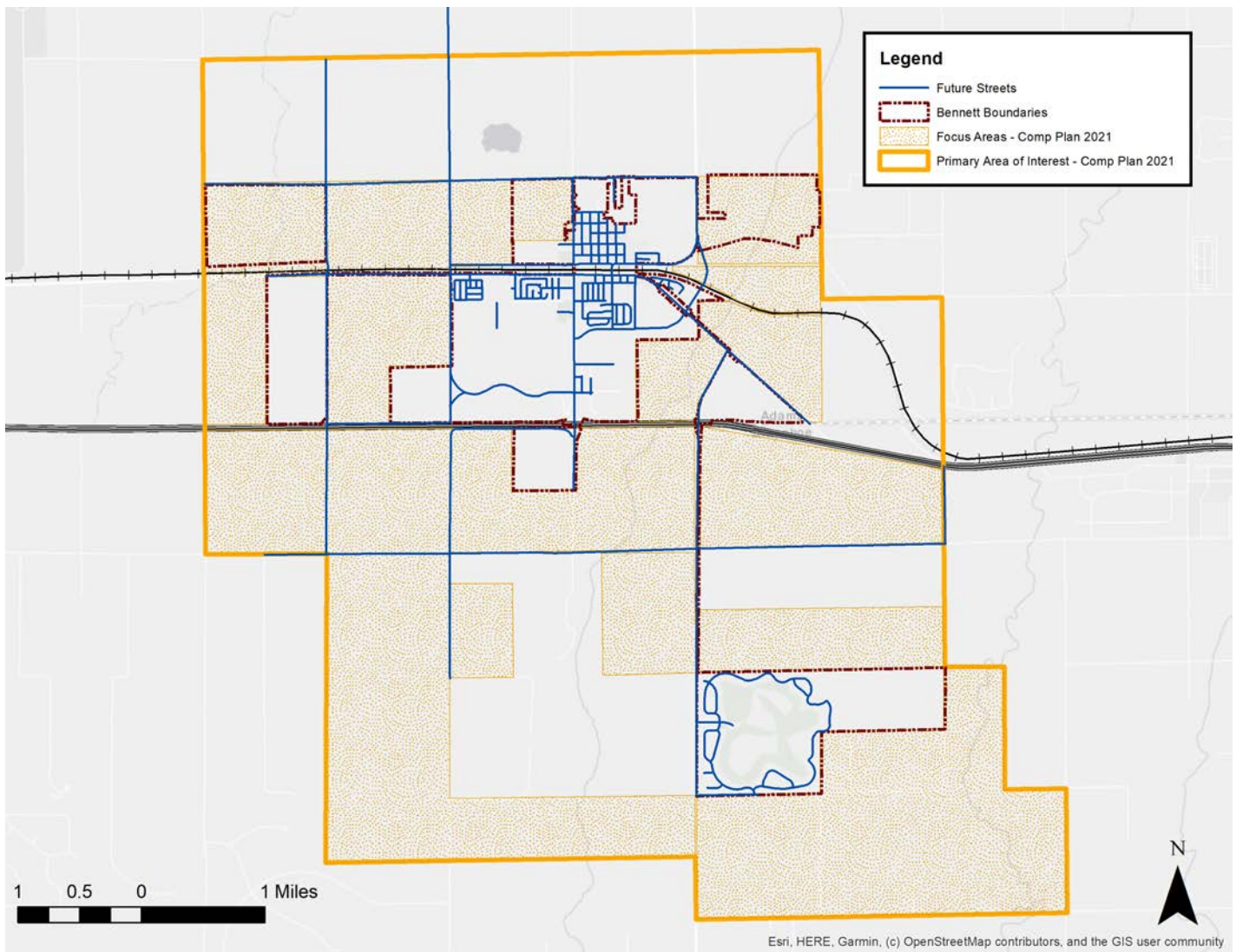


Figure 16 Future Focus Area

## IDENTIFIED ROADWAY PROJECTS

As outlined in the previous section of this plan, the projects have been prioritized based on current Town standards. These projects relate directly to anticipated necessary roadway improvements based on anticipated development and the increased capacity required by the influx of vehicular traffic. In many cases, roadway improvements to currently developed roads in the network will be phased and may include the addition of new lanes or bicycle and pedestrian amenities. The general cost estimate by roadway type included in this plan also includes cost estimates for travel lanes (by material type) as well as bicycle and pedestrian improvement. Each of

these items is estimated by linear foot and by linear mile to provide Town staff with the ability to better estimate and plan for project costs into the future.

Given the Town’s utilization of the Capital Asset Inventory Master Plan (CAIMP) for support on future planning and implementation decisions, as well as budgeting and fund raising, the full lists of future projects identified through the development of this plan have been incorporated into CAIMP and are readily accessible through that platform for public consumption. For project specific details, please visit the Town’s website or the [CAIMP webtool](https://townofbennett.colorado.gov/caimp) specifically: <https://townofbennett.colorado.gov/caimp>

## PLAN MONITORING

To be successful, capital planning must be an ongoing activity. Plan monitoring involves establishing accountability tools for tracking progress over time. The progress matrix (below) is a basic plan monitoring tool that identifies timeframes for the accomplishment of catalyst actions: short-term (annual to three years), midterm (three to five years), and long-term (five years and beyond).

Plan monitoring is a dynamic process. Key strategies, catalyst actions, and policy directives should be reviewed on an annual basis and refined with changing circumstances. As data become available, indicators or other specific measures that monitor the accomplishment of achievable goals should be established for each plan theme. Finally, the entire plan document should be considered for public review and update five years from its adoption.

Progress Matrix

Catalyst Action	Completion Timeframe	% Complete
Update and adopt the Town Utility Standards to ensure improved operational efficiencies, quality and safe development, and compliancy with all state and federal agencies.	Short-term	___%
Update of Town Stormwater Criteria Manual to set forth the design guidelines and technical criteria to be utilized in the analysis and design of stormwater drainage systems.	Short-term	___%
Invest in a diverse water portfolio—a deliberate collection of assets, policies, practices, and technologies—for the Town’s water portfolio. Just as your “Don’t put all your eggs in one basket,” “Don’t get all your water from one bucket.”	Short-term	___%
Update 2015 Comprehensive Plan to coordinate planning area and projected growth within the C.A.I.M.P. planning tools.	Short-term	___%
Update on an annual basis the Town’s Capital Improvement Projects as projected within the GIS dashboard and set priority and funding recommendations annually with Budget.	Mid-term	___%
Create the 2022 Bennett Mobility Vision Regional Transportation Plan to represent the Town’s unconstrained vision for a multimodal transportation system needed to respond to future growth and demographic trends.	Mid-term	___%
Provide in-house management of GIS portal and expansion, include allocation for full-time position within the Town staff.	Long-term	___%

## Acknowledgements

### Bennett Board of Trustees (2019)

Royce Pindell, Mayor  
 Rich Pulliam, Mayor Pro-Tem  
 Darvin Harrell, Trustee  
 Phyllis Webb, Trustee  
 Neal Mancuso, Trustee  
 Charles Bayley, Trustee  
 Larry Vittum, Trustee

### Bennett Planning and Zoning Commission (2019)

Wayne Clark, Chairperson  
 Suzette Pulliam  
 Martin Metsker  
 Rachel Conner  
 James Grider Lee  
 Dennis Owens  
 Scott Smith

### Bennett Town Staff (2019)

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 Mike Rocha, P.E., SM Rocha LLC.  
 Mark Witlatch, PureCycle

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## INTRODUCTION

The Town of Bennett, Colorado, is uniquely positioned to capture the next wave of growth within the Denver metropolitan area. Bennett’s proximity to Denver International Airport (DIA), the Front Range Airport, I-70, E-470, and the Union Pacific Railroad are all factors that will have a direct impact on the future growth of the Town; which encompasses an incorporated area that currently totals 4.3 square miles.

Bennett’s community leaders are visionary and willing to take bold steps to secure the Town’s future. Bennett’s growth intentions are reflected by its objective to plan, protect, and construct adequate capital infrastructure to build sustainability for current and future residents of Bennett. The prospect for growth associated with a renewable water supply is a fundamental tenet of this Capital Asset Inventory & Master Plan, otherwise referred to as the C.A.I.M.P. project.

Bennett is committed to responsible planned development, economic vitality, a program for public improvements, and improving the quality of life for its residents. The 2019 Capital Asset Inventory Master Plan is a targeted update of the Town’s 2003 BBC Research & Consulting Impact Fee Study, 2008 RTW Water-Wastewater Master Plan and Rate Study, and the 2014 Impact Fee Update.

The Town initiated a utility master plan update in 2017 with a proposal to DOLA Mineral Impact Fund. DOLA encouraged the Town to become a pilot community for its fiscal sustainability program and expand the scope of the project to include all town assets. The DOLA grant was approved, and we received \$125,000 to match with a \$125,000 cash contribution. Additionally, in spring 2018, the Town was awarded \$40,000 from Adams County Open Space for parks, trails, and open space master plan update. The combined efforts with DOLA, Adams County Open Space, and the Town will form an overall Capital Asset Inventory & Master Plan.

The Town’s senior staff, Terramax, Inc., Aqua Engineering, Jehn Water Consultants, Inc, Northline GIS, PureCycle, Kendrick Consulting, Inc., Norris Design, and SM Rocha, LLC., made up the consulting team responsible for the development of this robust master plan. Additionally, public forums were hosted to provide residential input and historical data.

# 2019 TOWN OF BENNETT CAPITAL ASSET INVENTORY MASTER PLAN

## VISION

We envisioned a dynamic Master Plan that is all-encompassing with a framework in GIS. We did not want a lengthy paper report that would be difficult when needing updated. We see a day when we will pull up our infrastructure on a dashboard and be able to drill down on an element in our inventory to get details of planning recommendations, calculation method for impact fees, budgeting, growth projections, summaries of O&M and have it be graphical.

## USE OF THE PLAN

C.A.I.M.P. was structured around the Town’s public infrastructure current condition, criticality, and capacity, which is the heart of the plan. There are six distinct capital systems included: Water, Wastewater, Storm Water, Transportation, Facilities; which includes Public Facilities, Land Parks, Trails, and Open Space. Each capital system contains a baseline inventory of current assets, capital improvement replacement planning, basis of design for new or expanded capital planning, impact and development fee calculations, key strategy, catalyst action, and revised policy directives.

This plan is intended to provide appointed and elected officials, landowners, project applicants, and other stakeholders with a broad policy tool for guiding decisions concerning capital infrastructure for current and future Town assets. Through previous assignments and communications with Bennett’s stakeholders, this planning approach recognizes the Town’s burgeoning Geographic Information System (GIS) vision and commitment. This new GIS program provides an avenue for more dynamic, flexible and useful “living documents” for master planning and capital improvements. While many master plans and capital improvement programs are destined to become obsolete quickly, GIS holds the potential to work directly against this factor, by remaining in regular and active use, reviewed and updated by Town staff and Town policy directives.

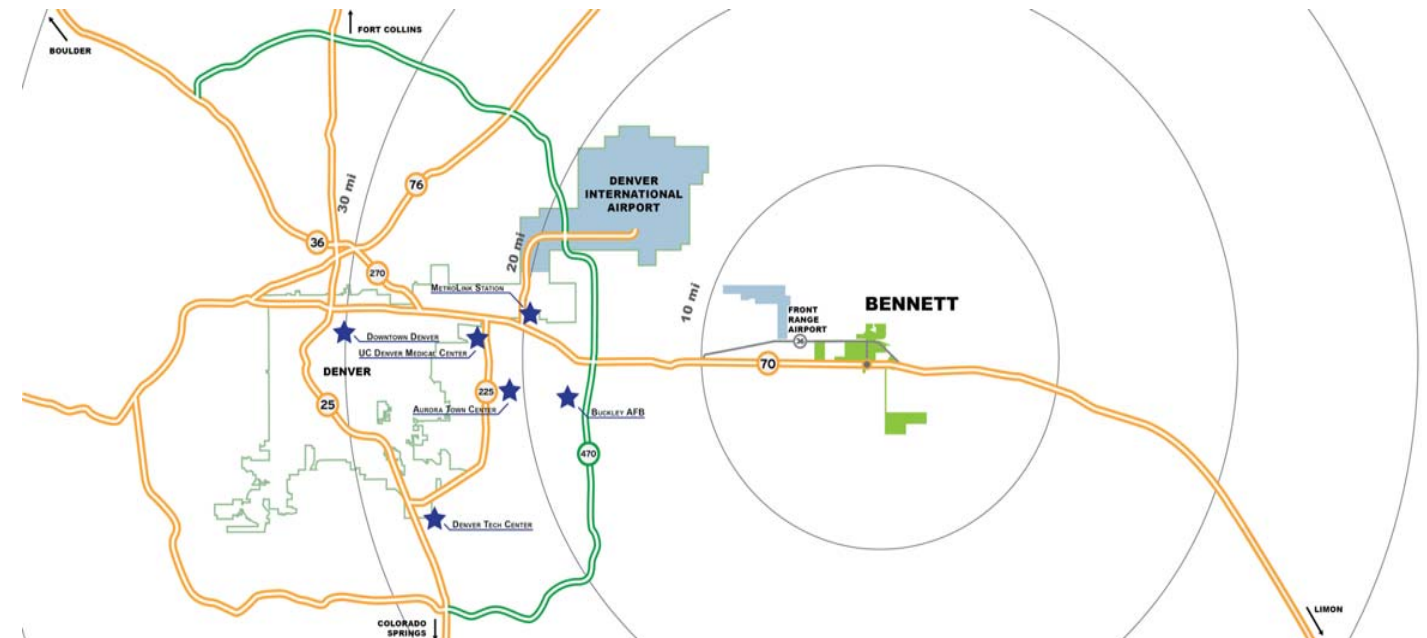
The capital improvement planning, basis of design, achievable goals, key strategies, catalyst actions, and policy directives detailed within this document serve as the first generation of what is anticipated to be an ongoing, dynamic



## GUIDING PRINCIPLES

A guiding principle is a core value or standard that provides direction for creating C.A.I.M.P. The following is a set of guiding principles refined throughout the capital inventory assessment and the basis of design for future planning.

1. *The first and the most important part of any asset master plan and the program is to be able to identify/discover all the assets in our public systems. An inventory and analysis of our current assets will help the Town efficiently monitor and manage them;*
2. *Create a universal scoring method to be used on all distinct systems within the Town to help prioritize capital replacement needs and priority projects in the future. Condition, Criticality, Capacity, were the three guiding principles applied to each asset within the Town;*
3. *Esri Geospatial dashboard and ArcGIS Online enables the Town to connect people, locations, and data using interactive maps. By hosting a master plan within Esri software we will work with smart, data-driven styles and intuitive analysis tools to deliver location intelligence. We can share our insights with the world or specific groups;*
4. *Establish a basis of planning and design for three, five, and, ten year planning period;*
5. *Create a multi-level capital planning dashboard within ArcGIS Online that encompasses the needs for financial planning and sustainable reporting;*
6. *Quantify the reasonable impacts of the proposed development on existing capital facilities and establish the impact fee or development charge at a level no greater than necessary to defray such impacts directly related to proposed development C.R.S. 29-20-104.5;*
7. *Ensure that infrastructure is available to accommodate new growth. Specifically, impact and development fee calculations for capital improvements in distinct systems of, Water, Wastewater, Storm, Facilities, Transportation, and, Parks, Trails and Open Space;*
8. *Make development decisions predictable, fair, and cost-effective, with the responsibility of designing and constructing the infrastructure required for new development shared by all parties receiving the benefit; and*
9. *Remove barriers to collaboration, leverage funding, and increase the accountability and effectiveness of all levels of government to plan for future growth.*



## SUMMARY OF PROJECTED GROWTH

### PURPOSE

The purpose of this section is to support the C.A.I.M.P. project by providing population and land use density projections over a 10-year period as a basis for capital asset demand analysis. The research has been two-fold, first compiling and analyzing zoning data to project land uses and densities within the Town boundaries, and second, to compile population data in order to establish a population growth rate over the same period.

### ZONING PROJECTIONS

The properties were identified through planning records and compiled into a spreadsheet, which is embedded in the Capital Improvements Planning module in ArcGIS Online. The data was separated into residential versus non-residential development.

In terms of residential development, the chart describes a dwelling unit as a single-family home, two-family, townhome, or condominium unit. The total number of dwelling units for each project was determined by either the total number approved through zoning, platting or estimated by the developer through an interview. The spreadsheet differentiates the two types of numbers as being either platted and approved for that unit count or unplatted and an estimate on the unit count.

From the total number of dwelling units, an absorption rate projected over the ten (10) year period starting in 2019 and concluding 2029 which is the C.A.I.M.P. timeline. The absorption data was compiled through the developer interviews intended to determine and verify the information. All absorption projections are based upon the developer's best estimate of how the market will respond. All of Bennett's residential home market in the past ten years has been small infill until 2017 when LGI began to construct new homes and acquired 95 new home permits. At the end of 2018, approximately 45 of these homes had certificates of occupancy.

Of the developers interviewed, all intended to begin construction in the next two to three years with an estimated absorption rate of approximately 6-8 dwelling units per month. The residential market is still being tested by the prospective developers and home builders to see what the absorption rates will be on a monthly and yearly basis based upon the product types and home prices. In general, the developers interviewed were optimistic and actively working towards entitlements for their projects in order to begin construction.

At the time of this report, there are three potential annexations to the Town, the Stockman (1.5 acres of

attached residential), MacLennan (260 acres of mixed development use), and the Brunner (24 acres of single-family residential). It is conceivable that additional annexation could occur. A fundamental principle forming the basis for the Town's annexation policy is that annexation is an agreement between a willing landowner and a willing local government. The Town and property owner will enter into a pre-annexation agreement as a precursor to any annexation. Preannexation agreements establish the conditions of annexation and provide the Town and property owner with a set of negotiated obligations upon annexation, which will include a review of capital infrastructure needs to be based on the master plan outcome of C.A.I.M.P.

### SUMMARY

The potential growth in Bennett has been analyzed using data from the State Demography Office, input from the State Demographer's staff, the relevant Census data, and initial discussions with the team. The development of a growth projection spreadsheet, now embedded within the CIP dashboard of GIS, is a working document for updating projections over time. The Town's population is expected to reach 12,581 persons by year 2029. Which equates to approximately 4,358 single family equivalents (SFE) (residential, industrial, and, commercial). This is the estimated additional development driven impact for the impact fee study and assessed fees throughout all distinct systems.

### CONCLUSION

The potential for residential and commercial growth is significant in the Town of Bennett based upon the property owner and developer interviews regarding the current market. The analysis of this growth projection recognizes that Bennett has a history of anticipating growth that has not materialized as evident by the number of large planned unit developments that remain vacant over the last 15+ years. However, the current anticipation for growth is a result of three major contributing factors seen across the State. The first factor being the current and increasing population growth in the State, the second is expansion and population increase in Metro Denver, and last the increase in housing prices that are pushing buyers into surrounding areas such as Bennett. Bennett's residential market is being tested by large home builders anticipating absorption from these larger regional factors.

The proposed population growth rate will be significant, which seems to reflect the possible transition the Town is in from historical growth rates to potential expansion rates unseen historically. The growth rates proposed were reviewed and vetted by the technical team and the Town leadership to determine the appropriate projected growth rate for Bennett.

Town of Bennett Town Hall



Conceptual Design for Proposed Public Work Facility



## EXISTING INFRASTRUCTURE SUMMARY

The Town owns and operates two water systems. The North Water System (NWS) or “Old Town Water System” serves the Town north of I70, and the South Water System (SWS) serves the Antelope Hills development south of I70. The NWS and SWS provide potable water service for domestic, commercial, and industrial water uses including indoor consumptive uses as well as outdoor uses such as irrigation. Due to recent increases in residential and commercial development project construction activities, construction water needs are also served. The NWS infrastructure includes seven groundwater wells, three booster pumping stations, four storage tanks, and a distribution system. The SWS (Antelope Hills) consists of four groundwater wells, a common booster pump station, a single storage tank, and a distribution system.

A complete description including drawings, water model maps, schematics, and a detailed system inventory resides in the Town’s active GIS platform. A summary of key components follows:

- **Water Rights / Water Supply / Groundwater Wells**

The Town’s water supply comes from four Denver Basin aquifers underlying the Town. In descending order these aquifers are the Denver aquifer, the Upper Arapahoe aquifer, the Lower Arapahoe aquifer and the Laramie-Fox Hills aquifer. Each of these sources is withdrawn through the Town’s well system. Considering all aquifers, the Town has a total of 2989.27 acre feet of water rights.

The Town operates a total of eleven active wells. Seven wells are in the NWS (Well # 3, 4, 5 6D, 6UA, 7, & 8) and four are in the SWS (#9, 10, 11, & 13). The current installed well pumping capacity in the NWS is 681 gpm, with a firm pumping capacity of 496 gpm. Firm capacity refers to the capacity with the largest pump in the system out of service. In the SWS, well #11 is out of service, and the installed capacity of the three remaining SWS wells is 280 gpm, with a firm capacity of 180 gpm.

- **Treatment**

Due to the high quality of the Town’s existing groundwater

wells, the only required treatment is chlorination (to prevent the growth of pathogens in the system. In the future, as new wells or alternative water supply sources are brought on-line, the water quality of these wells/sources will be tested and additional treatment may be required to meet CO Primary Drinking Water Regulations (Regulation 11).

- **Booster Pumping / Pressure Control**

The Town has three booster pump stations in the NWS along with three well pumps (Well #6D, #6UA, and #4) that pump directly into the NWS distribution system. These pumps boost/maintain the distribution system pressure to between 65 and 80 pounds per square inch (psi). The NWS has two pressure zones, separated by a pressure control valve station located at the Well 6 site. This pressure control station allows water to be transferred between the two pressure zones depending on system demands and allows the Town to use the well and booster pumps in either zone to supply water to all of the Town’s storage tanks (in both pressure zones). The NWS booster and connected well pumps can deliver at total of 1765 gpm of firm capacity assuming adequate storage is maintained.

The SWS has one booster station (three pumps) with a total booster pumping capacity of 1,850 gpm with a firm capacity of 650 gpm.

- **Treated Water Storage**

The NWS has four storage tanks that provide a total storage volume of 1.195 million gallons (MG): The South Water System has a single storage tank with a volume of 355,000 gallons. (Figure Below: Treated Water Storage)

- **Distribution System**

A water distribution system model was developed and calibrated as part of the C.A.I.M.P. project. Detailed maps of the water system are included in the C.A.I.M.P. database and GIS. Currently the Town of Bennett’s NWS water distribution system has approximately 18 miles of pipe ranging in sizes of 4”-12” in diameter with the majority of pipe being 6” and 8” in diameter. The system currently has 140 fire hydrants throughout the town. The SWS has over 5.7 miles of piping, valves and hydrants.

Tank Reference	Location		Usable Volume, gallons
King Jelly Fish	NWS	West of Well 6 Site in South System	500,000
Converse Road Tank	NWS	West of WWTP on Converse Road	355,000
Well 6 Site	NWS	North of Well 6 Site	250,000
90K Wet Well Tank	NWS	Old Town Hall	90,000
Antelope Hills Tank	SWS	Antelope Hills (Well #9 and #13 site)	355,000

Treated Water Storage

- **Parks and Trails**

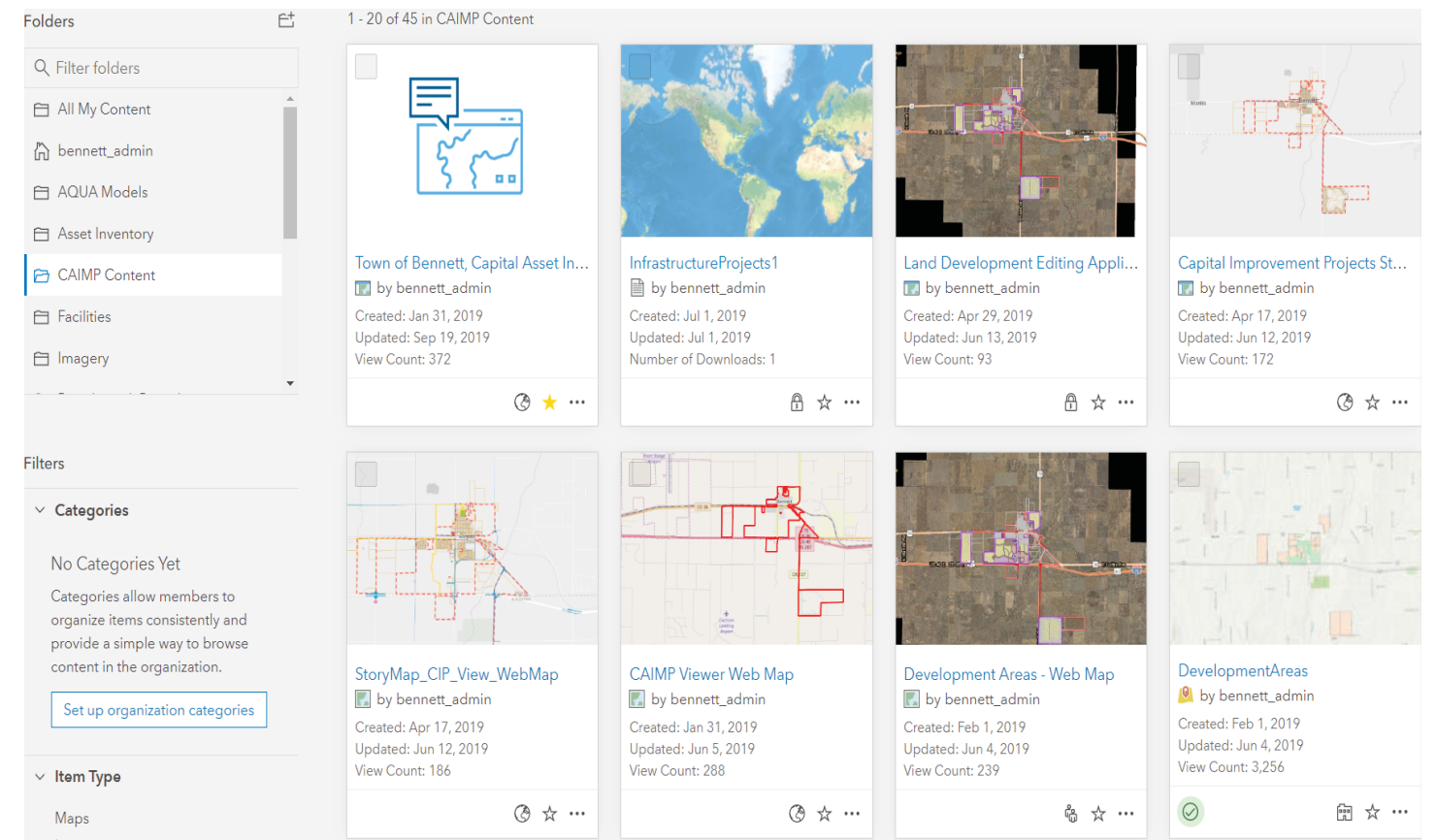
This group has the data related to parks and trails in the Town. The editing application allows the user to update information along with adding attachments to the different features. The overview application is the one which is used in C.A.I.M.P. Dashboards application.

- **Roads**

The group is solely devoted to storing road information. It has an editing application for the data maintenance which also has some built in reporting tools.

- **Utilities**

The utilities group has editing applications for the water, sewer, and stormwater distribution systems. It does not have the facility information since this data is also configured for use in the field on mobile devices. This group also has a Water Use Application. This application is designed to show the water usage based on meter reads throughout the Town. The data is exported from the meter reporting application and joined to the meter layer to be republished to the GIS.



### IMPORTANT LINKS

<https://www.arcgis.com>

<https://townofbennett.maps.arcgis.com/home/item.html?id=817c208886204be095a5b28fe0c1475f>



## PROJECT APPROACH

The GIS will be used as the hub for information retrieval, data analytics, and viewing. The ArcGIS Online platform has been used for the GIS repository. It features 3 main components which the Town Staff will use to share, access and manage the data. These are:

- Viewing Dashboards
- Data Editing Applications
- Story Map for Public Viewing

The Viewing Dashboards provide an overview of the Capital Improvement Plan, Utility Systems, Roads, Buildings, Lands and Parks. This is configured as a single application which houses all the viewers. The Data Editing Applications provide tools for editing, printing, data queries and some reporting tools depending on the layers used. These are meant to be interactive and used for data maintenance. The Story Map is designed to be shared with the public to highlight the work and results of the C.A.I.M.P. project.

All of the applications for the C.A.I.M.P. project are connected and allow an immediate update across the board. So when a data edit is made, it is noticeable through all the other applications. They are meant to be interactive and allow for the Town to use as planning and management tools whereas when conditions or information changes it is meant to be updated in GIS. Additional reporting tools are able to be added to the applications as the Town begins to determine more needs from the data. Along with, the platform may integrate with other systems in place. GovSense is built on the same platform which will allow information stored there to be reported in the C.A.I.M.P. applications.

The applications are organized in Groups specific to the use of the data. The Groups are designed to show the applications by default but all the related layers and webmaps are accessible through the group. This eliminates the process to sort through the organization content page. It will be important moving forward that all data is appropriately shared and stored in the corresponding user folders for good data management. Groups should only be used to store organization wide data and applications. ArcGIS Online Structure and Applications

The Groups which contain the applications applicable to the C.A.I.M.P. project are:

- Asset Inventory
- Buildings and Land
- C.A.I.M.P.
- Parks and Trails
- Roads
- Utilities

### • Asset Inventory

This group contains the editing and reporting applications which were used by Aqua Engineering to develop the facility information for the water and wastewater systems. The Admin editors are where data is added, edited and deleted. These are connected to the Asset Inventory Overviews so data is immediately updated. Many of the features in the facilities have related tables. Before creating a new feature, existing layers should be checked to see if there is a related table which is used to track features which are associated with it.

### • Buildings and Land

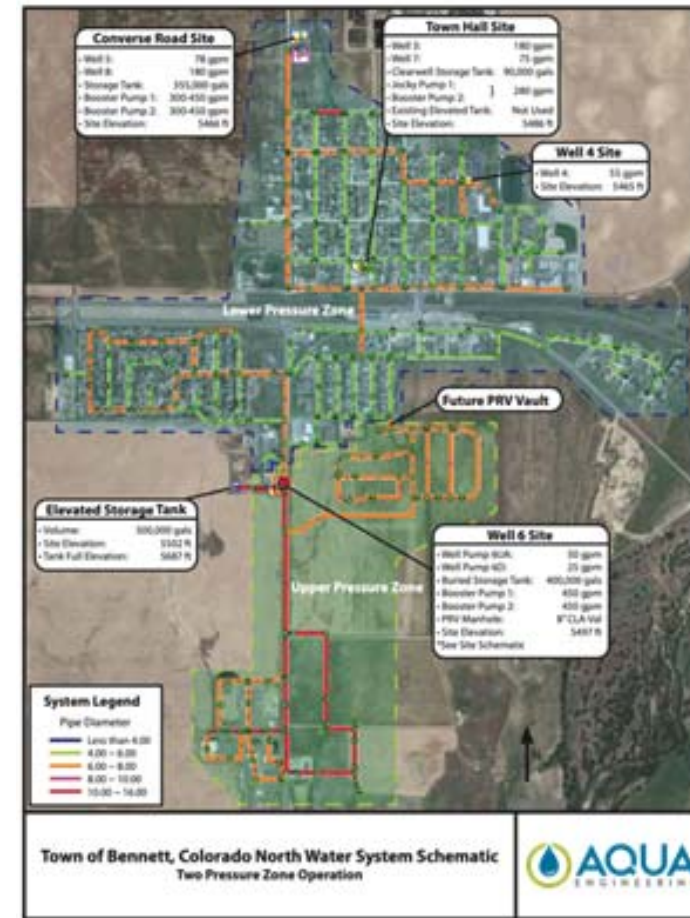
Here all the applications and data related to land planning, building management, and development tracking are stored. The Address Point Editing Application is meant to be used for address management which will be important since many other features have an address component that will use this data as part of the update process. The Land Development Editing Application has the proposed developments in the Town, the future development areas, and overlay areas along with zoning information. The information edited here controls what is displayed in the Development Areas – Dashboard along with the Future Development Application which is in the C.A.I.M.P. group. The Buildings and Land Editing Application has the Building Assessment information, land owned by the Town, and historic properties. These applications have edit, print and reporting tools built in. The Development Areas Dashboard is the one configured for the overall C.A.I.M.P. dashboard which shows the metrics of the planned developments.

### • C.A.I.M.P.

The C.A.I.M.P. group is the catch all group for all the data developed as part of the C.A.I.M.P. project. It has all the applications which were used to create the C.A.I.M.P. Dashboards application. The C.A.I.M.P. Dashboards has a tabbed view of:

- Capital Improvement Projects
- Water System
- Wastewater
- Stormwater
- Roads, Lands and Buildings
- Land Planning
- Future Developments
- Parks and Trails

These are static views that provide overviews of the different components of the project. There are a variety of tools and filters which are built in based on how the Town may interact with the data. The other main feature of this group is the CIP Infrastructure Projects Editor. This is the application which controls the data displayed in the dashboard. It is used to add, change and update the capital improvement projects in the Town.



## BASIS OF PLANNING AND DESIGN

In 2018, the Towns used (sold) 106,173,400 gallons of water (326 acre-ft), with 17,310,500 gallons used in the SWS, and 88,862,900 used in the NWS. In 2019, the Town is projected to use over 120,000,000 gallons, which is a 13% increase from 2018. The increase was due to growth and a 17% increase in water demand in the NWS compared to 2018.

## ASSESSMENT/ EVALUATION

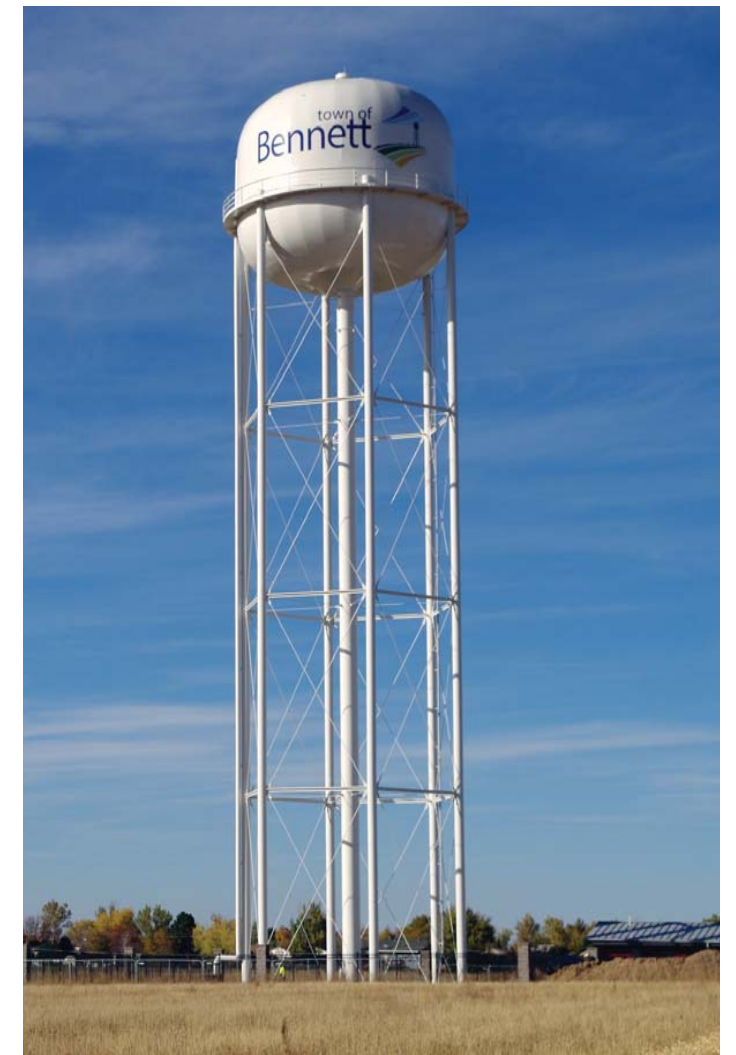
The Town's existing water system infrastructure was evaluated and assessed with regard to its ability to serve the Town's needs for a 10-year planning period (Year 2029). The capacity, capability, and criticality of the Town's water supply, treatment, water rights, well pumps, booster pumping/pressure control, storage and distribution was evaluated. The assessment used various tools including spreadsheets and a computer water model to identify capacity deficiencies and needs. The water model and capacity assessment spreadsheet tools are included in the C.A.I.M.P. project GIS database and will be reviewed and updated annually as actual growth occurs.

## RECOMMENDATIONS/ CIP

The assessment and evaluation process identified infrastructure improvement needs and recommended capital improvements projects. These projects were then entered into the Town's GIS database in the GIS "CIP Dashboard". The dashboard contains detailed information on each recommended project including cost, description, timing, and location. In summary, the assessment recommended 51 capital projects with a total value of \$57.33 MM to be implemented over the next 10 years. A detailed summary list or details on any individual project can be generated by the Town's GIS program on demand.

## NEXT STEPS

The Town will continue to use the assessment and planning tools developed by the C.A.I.M.P. project to identify deficiencies and needs and define recommended capital improvements projects. As these projects are identified, they will be entered into the Town's GIS program.



# WASTEWATER

## EXISTING INFRASTRUCTURE SUMMARY

The Town has two wastewater systems. The North Wastewater System (NWWWS) serves the Town north of I70, and the South Wastewater System (SWWS) serves the Antelope Hills development south of I70. The (NWWWS) is a centralized wastewater collection system and an advanced water resource recovery facility (WRRF). The South Wastewater System (SWWS) is comprised of privately-owned on-site wastewater treatment systems (OWTS) more commonly known as septic systems. Due to its simplicity and private ownership, the SWWS was not evaluated as part of the C.A.I.M.P. project, and only the NWWWS is discussed herein.

A complete description and additional documents including drawings, schematics, and a detailed system inventory resides in the Town's active GIS platform. A summary of key components follows:

- **Wastewater Collection System and Lift Stations**

The Town's current wastewater collection system consists of over 71,000 lineal feet of sewer pipes ranging from 4-inches to 18-inches in diameter, and pipe materials consisting of vitrified clay (VCP), polyvinyl chloride pipe (PVC), and steel. A collection system layout is shown in the water model output exhibits, Attachments F to M. A sample exhibit is included herein showing a section of the collection system and the WRRF.

The collection system includes two lift stations: the Cordella Lift Station and the High School Lift Station. A third lift station called the Penrith Park Lift Station is under construction by the Penrith Park project developer. The Cordella Lift Station is currently being expanded/refurbished to provide a capacity to serve both existing users and new development. Also, the WRRF has its own lift station called the Influent Lift Station.

- **Wastewater Treatment – Water Resource Recovery Facility (WRRF)**

In early 2019, the Town finished construction and commissioned a new water resource recovery facility (WRRF) located on the north end of Town, bordering E. 38th Avenue and Darco Street. The WRRF is permitted by the Colorado Department of Public Health and Environment (CDPHE) for a hydraulic design capacity 0.4 MGD and an organic loading capacity of 1,130 pounds per day of biochemical oxygen demand (BOD5). BOD5 is the amount of oxygen required to convert the organic material in the wastewater. The facility discharges to an unnamed tributary of Sand Creek.

The new WRRF replaced the Town's aerated lagoon facility with an advanced treatment process designed to remove solids, organic pollutants, pathogens, and total nitrogen to very low levels. The new WRRF will have a strict ammonia

limit that ranges from 6.1 to 13 mg/L (30-day avg) and a Total Inorganic Nitrogen (TIN) limit of 10 mg/L (daily max) starting in 2023. The new facility includes the following major components/ treatment processes:

- Influent lift station
- Headworks building, with screening and grit removal
- An advanced sequencing batch reactor (SBR) activated sludge treatment process (Sanitaire ICEAS)
- Supervisory Control and Data Acquisition (SCADA)
- Effluent equalization and pumping
- Ultraviolet disinfection
- Biosolids dewatering
- Operations building including a small lab.
- Automated aeration system with dissolved oxygen control and fine bubble diffusers



- **Planned Reclaimed Water System**

Due to the high quality of effluent produced by the new WRRF, treated effluent can be permitted by CDPHE to be used by the Town for irrigation and for construction needs. In recognition that reclaimed water use will preserve the Town's potable water supplies, the Town is currently implementing a reuse project to convert the old wastewater treatment ponds to become reclaimed water storage reservoirs; along with an on-site pumping and water delivery (load out) station. Refer to the AQUA Engineering Wastewater Memorandum and the AQUA Basis of Planning and Capacity Assessment.

# IMPACT FEES

Included within the C.A.I.M.P. project was the specification for capital improvement projects needed to serve new development. While the impact report embedded within ArcGIS Online projects for ten years, it is not intended to be a comprehensive 10-year plan. Instead, it is intended to be a comprehensive 3 to 5-year plan and probable course of action after that. The use of the C.A.I.M.P. dashboard is most effective when it is frequently updated. It is recommended that development driven impacts be reviewed at least every two years and updated every five years. The following section reflects changes to Chapter 4 of the Bennett Municipal Code.

WHEREAS, pursuant to state law, including but not limited to C.R.S. §29-20-101, et seq., and as a condition of issuance of a development permit, the Town has the authority to impose an impact fee or other similar development charge to fund expenditures by the Town on capital facilities needed to serve new development; and

WHEREAS, the Bennett Municipal Code requires periodic review of the Town's impact fees to ensure that: (1) the demand and cost assumptions underlying the impact fees are still valid; (2) the resulting impact fees do not exceed the actual costs of constructing capital facilities that are of the type for which the fees are paid and that are required to serve new impact-generating development; (3) the monies collected or to be collected in each impact fee fund have been paid and are expected to be spent for capital facilities for which the fees were paid; and (4) the capital facilities for which the fees are to be used will benefit the development paying the fees; and

WHEREAS, Town staff has undertaken a review of the Town's capital needs and impact fees by reassessing the Town's capital needs, updating cost estimates, and reviewing changes in development projections and impacts for the Town in order to determine the capital facilities needed to serve new development and the proportional costs of such facilities that may be charged to proposed development through impact fees, which review is summarized in the Capital Asset Impact Master Plan dated November 12, 2019 (referred to as the C.A.I.M.P. project) and accompanying this Ordinance; and

WHEREAS, the Board of Trustees hereby confirms and establishes as Town standards the assumptions and service standards referenced and discussed in the C.A.I.M.P. project as part of the Town's current plans for future construction, improvement and expansion of the Town's capital facilities that are addressed by the impact fee system amended by this Ordinance; and

WHEREAS, the Board of Trustees finds the demand and cost assumptions underlying the Town's impact fees, and

in particular, changes in growth forecasts for the Town, reassessment of the Town's capital needs, increases in construction costs and a reallocation of costs to residential and non-residential development due to the amount of commercial growth the Town has experienced, warrant revisions to the Town's impact fees as set forth in the C.A.I.M.P. project; and

WHEREAS, the Board of Trustees further finds the impact fees, as amended by this Ordinance, do not exceed the actual costs of constructing capital facilities that are of the type for which the fees are paid and that are required to serve new impact-generating development; of the impact fee monies spent since adoption of Article VIII of Chapter 4 of the Bennett Municipal Code, such fees have only been spent for capital facilities for which such fees were paid; impact fee monies to be collected in the future are likewise expected to be spent only for capital facilities for which the fees were paid; such capital facilities that have been constructed with impact fee monies have benefited those developments that paid the fees; and future impact fee monies paid will fund capital facilities that will benefit those developments that paid the fees; and

WHEREAS, the impact fees charged to new development pursuant to this Ordinance are legislatively adopted, generally applicable to all development based on a single-family equivalent basis, and intended to defray the projected impacts on capital facilities caused by proposed development; and

WHEREAS, the impact fees are no greater than necessary to defray the projected impacts directly related to proposed new development; and

WHEREAS, this Ordinance creates a system under which impact fees shall not be used to remedy any deficiency in capital facilities existing on the effective date of this Ordinance and under which impact fees paid by new development will be used to finance or defray all or a portion of the costs incurred by the Town to construct, improve or expand capital facilities to serve new development in ways that benefit the development that paid each fee within a reasonable period of time after the fee is paid; and

WHEREAS, of the Article VIII of Chapter 4 of the Bennett Municipal Code includes provisions to ensure that no individual landowner is required to provide any site-specific dedication or improvement to meet the same need for capital facilities for which the impact fees are imposed; and

WHEREAS, the Board of Trustees by this Ordinance desires to amend Chapter 4 of the Bennett Municipal Code to update its development impact fees.

# FINANCIAL

Financial planning for the replacement of such assets can assist with ensuring fiscal transparency and proper stewardship of taxpayer dollars. Furthermore, in the past two years, the Town has invested over \$19 million on updating and revitalizing assets. These assets were a hefty investment for our community, and this inventory system can help facilitate security, as well as ensure accountability to maintain and protect the asset. C.A.I.M.P. helps integrate the asset inventory into a sensible and cost-effective GIS Asset Management System. This useful tool is a critical part of the overall management and maintenance of the assets. In conclusion, the expansion of the financial capacity will provide an Asset Inventory and Capital Planning document that will support the Town's mission for sustainability and will be a vital key to our future.

Throughout the process of identifying project funding and preparing financial planning for our current and future assets, the Town created a structure breakdown as follows:

Define current financial conditions for each distinct system, including; cash resources, budget, and borrowing power.

Develop future financial projections of capital and operating and maintenance accounts based on potential revenue sources, i.e., taxes, development, user fees. Finally, investigate and summarize possible funding sources, such as:

- Grants
- Loans
- Development Contributions

- User Rates
- Project Bonds
- Sales Tax
- Leasing Options
- Performance Contracts
- Public-Private Partnerships

Develop a cash-flow financial planning model that allows staff and users to input and change key variable inputs such as the capital projects implementation, timing, and various growth scenarios. This model provides a rate policy discussion tool for impact, development, and user fees for all distinct systems.

For the distinct systems included within the C.A.I.M.P. , the Town used a CIP methodology. Unlike the current service standard method, which looks at current assets, the CIP approach considers projected capital investments over the next ten years. Through interviews with developers, landowners, and Town staff, the C.A.I.M.P. team identified the share of each asset needed to serve new growth. The total projected investment needed to serve new growth was then allocated to a single-family equivalent.

Single Family Equivalent or SFE a numerical value assigned to a specific property based upon the demand placed on the water and sewer systems of the Town by an average single-family residential unit in accordance with the schedule and SFE calculator adopted pursuant to Chapter 13 of the Town Code.

## BASIS OF PLANNING AND DESIGN

In 2018, the Town's NWWs conveyed and treated an annual average of approximately 116,000 gallons per day of wastewater (0.116 MGD). As of October 2019, the average daily wastewater flows measured at the WRRF the Town increased to approximately 140,000 gpd, which is a 20% increase from the 2018 annual average day flow. The increase is due to growth in the NWS.

## ASSESSMENT/ EVALUATION

The Town's existing wastewater system infrastructure was evaluated and assessed with regard to its ability to serve the Town's needs for a 10-year planning period (Year

## RECOMMENDATIONS/ CIP

The assessment and evaluation process identified wastewater infrastructure improvement needs and recommended capital improvements projects. These projects were then entered into the Town's GIS database in the GIS "CIP Dashboard". The dashboard contains detailed information on each recommended project including cost, description, timing, and location. In summary, the assessment recommended 53 capital projects with a total value of \$25.86 MM be implemented over the next 10 years. A detailed summary list or details on any individual project can be generated by the Town's GIS program on demand.



2029). The capacity, condition, and criticality of the Town's collection system, lift station, and water resource recovery facility was evaluated. The assessment used various tools including analysis spreadsheets and a computer sewer system modeling software to identify capacity deficiencies and needs. For example, the projected capacity shortfalls (deficiencies) of the Town's new WRRF begin in year 2020. Note the capacity analysis is highly dependent on growth and also the amount of wastewater generated per SFE. The sewer system model and capacity assessment spreadsheet tools are included the C.A.I.M.P. project GIS database and will be reviewed and updated annually as actual growth occurs. Data on the actual unit wastewater generation rates (gpd/ SFE) will also be collected and the model updated and calibrated.

## NEXT STEPS

The Town will continue to use the assessment and planning tools developed by the C.A.I.M.P. project to identify deficiencies and needs and define recommended capital improvements projects. As these projects are identified, they will be entered into the Town's GIS program.

Water Cash Flow Projections 10.1.19Final - Excel											
WATER FUND CASH FLOW PROJECTIONS											
			2016	2017	2018	2019	2020	2021			
<b>REVENUE</b>											
<b>WATER SINGLE FAMILY EQUIVALENT (SFE)</b>											
	Residential Single Family & Multi Family SFE		910	938	1,029	1,041					
	Commercial & Industrial SFE		118	122	122	133					
	Government SFE (School, Library, VFW, Rec)		66	66	90	90					
	<b>Current Water SFE</b>		<b>1,094</b>	<b>1,126</b>	<b>1,241</b>	<b>1,264</b>					
	Residential Single Family & Multi Family SFE		-	-	-	-	214	328			
	Commercial & Industrial SFE		-	-	-	-	55	177			
	Government SFE (School, Library, VFW, Rec)		-	-	-	-	-	-			
	<b>Additional 2020 Portfolio Water</b>						<b>268</b>	<b>505</b>			
	Residential Single Family & Multi Family SFE		910	938	1,029	1,041	1,255	1,583			
	Commercial & Industrial SFE		118	122	122	133	188	365			
	Government SFE (School, Library, VFW, Rec)		66	66	90	90	90	90			
	<b>GRAND TOTAL SFE</b>		<b>1,094</b>	<b>1,126</b>	<b>1,241</b>	<b>1,264</b>	<b>1,532</b>	<b>2,037</b>			
<b>BASE RATE</b>											
	Current Water										
	Residential Single Family & Multi Family SFE	Rate	\$25.00	\$30.00	\$30.00	\$30.75					
	Commercial & Industrial SFE	Rate	\$25.00	\$30.00	\$30.00	\$30.75					
	Government SFE (School, Library, VFW, Rec)	Rate	\$25.00	\$30.00	\$30.00	\$30.75					
	Residential Single Family & Multi Family SFE	Annual Revenue (Base X Unit) X 12	\$273,000.00	\$337,680.00	\$370,440.00	\$384,129.00					
	Commercial & Industrial SFE	Annual Revenue (Base X Unit) X 12	\$35,400.00	\$43,920.00	\$43,920.00	\$49,077.00					
	Government SFE (School, Library, VFW, Rec)	Annual Revenue (Base X Unit) X 12	\$19,800.00	\$23,760.00	\$32,400.00	\$33,210.00					
	<b>Ground Water Base Rate Coverage</b>		<b>\$328,200.00</b>	<b>\$405,360.00</b>	<b>\$446,760.00</b>	<b>\$466,416.00</b>					
	Base Rate Insurance Plan 1 Unit Total		\$25.00	\$30.00	\$30.00	\$30.75					

# STORM

## EXISTING INFRASTRUCTURE SUMMARY

The Town of Bennett spans three major stormwater drainage basins, Lost Creek (aka Lost Sand Creek), Kiowa Creek, and Wolf Creek, from west to east. The Town itself is in two distinct halves, the North Town in Adams County and north of I-70, and the South Town in Arapahoe County and south of I-70, and currently consisting of the Antelope Hills subdivision. The North Town is tributary to Lost Creek and Kiowa Creek, while the South Town is tributary to Kiowa Creek and Wolf Creek.

The current North Town areas are tributary to Lost Creek via several significant unnamed stormwater drainage channels, and to Kiowa Creek via direct flow areas and roadside drainage ditches. The South Town Antelope Hills areas are tributary to Kiowa Creek via historic farmland low areas, and to Wolf Creek via a significant unnamed tributary.

These drainageways historically are ephemeral, not perennial, without springs, seeps or a notable regular (non-storm) base flow. They therefore typically carrying flows only as a result of precipitation, from rainfall or snowmelt events. With the Town's long-standing historic background as an agricultural community, local drainageways have tended to be subtle, actively farmed or used, and inclined towards impounding and infiltration of much precipitation runoff.

All three of these major named Creek channels feature Federal Emergency Management Agency (FEMA) designated and regulated floodplains in the vicinity of the Town, although not necessarily within the Town limits. None of the unnamed tributaries that directly convey Town stormwater flows to these major Creeks have FEMA designated floodplains. Due to the somewhat haphazard development of the older areas of Bennett, much of North Bennett is within a FEMA Zone X hazard area, meaning it has potential for shallow flooding.

A complete description including drawings, schematics, and a detailed system inventory resides in the Town's active GIS platform. A summary of key components follows:

- **Stormwater Rights**

Per requirements of the Colorado Division of Water Resources (DWR), no exposed standing water is allowed for more than three (3) days following a precipitation event, without a water right and delivery method sufficient to allow impoundment of stormwater without injury to a downstream water right owner. The Town is further motivated to prevent stormwater impoundment beyond this three-day threshold due to concerns over mosquito and pest control in addition to potentially compromising water rights.

- **Stormwater Quality**

The Town of Bennett is not regulated under the Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) as an MS4 (Municipal Separate Storm Sewer System) community, since it is not included as an Urbanized Area (UA) for either Adams County or Arapahoe County.

Construction sites that disturb more than one (1) acre are required to secure a Discharge Permit through the Colorado Department of Public Health & Environment (CDPH&E), in any case. This is for stormwater quality and receiving water protections from construction disturbance, including in the Town of Bennett. The Town administers compliance with this requirement through a Town Grading Permit, which, importantly, does not currently include or address an Erosion and Sediment Control (ESC) component. The Town would be proactive to expand the Town Grading Permit to a Grading, Erosion & Sediment Control (GESCC) Permit. This would allow the Town to address disturbances for less than one acre where appropriate, and more generally to accept more full and direct inspection and enforcement responsibility for construction site stormwater quality in Bennett.

- **Stormwater Conveyance**

The North Town stormwater conveyance efforts over the last several decades have focused on diverting flows around older Town residential areas. The Old Town paving project of the early 1980's developed Trupp Park as a significant regional detention pond, with intentions for joint recreational use as a baseball field. Just as significantly, however, this project saw the diversion of the UPRR 3rd Street bridge drainageway west to Trupp Park, bypassing Old Town by means of diversion ditches, Trupp Park, and a significant 1st Street storm sewer system.

The 1st Street storm sewer releases just south of Truman Avenue, ultimately overflowing 1st Street further north under County maintenance, and flows east to a significant "2nd Street" (or OBC or Owens or Simon) drainageway, which joins the main Old Town unnamed tributary to Lost Creek just north of a culvert crossing at East 38th Avenue.

The Town has worked through several efforts to protect the Centennial Addition subdivision and residential development from runoff flows from the Muegge Farms property and lesser tributary areas further south of I-70. These efforts included controlled-release retention pond, and an ensuing, much larger and deeper detention storage pond. These both utilized the existing 36-inch "Centennial" storm sewer system to store, control and divert flows to the east, around the Centennial Addition.

# TRANSPORTATION

## EXISTING INFRASTRUCTURE SUMMARY

The Town of Bennett has been defined to a significant degree over many years of its history by highways, beginning with the Old Victory Way route following the Union Pacific Railroad (UPRR) alignment from the days of the Town's founding. Currently, U.S. Highway 36 (Colfax Avenue), State Highway 79 (including parts of Palmer Avenue and First Street), and County Road 137 (Kiowa-Bennett Road), along with Interstate 70 (I-70) are all defining transportation elements for the Town.

Other key existing Town roads and streets include Marketplace Drive, Edward Avenue (future SH 79 Bypass west end), Muegge Way, Bennett Avenue, Centennial Drive, McKinley Drive, Kiowa Street, Adams Street, Palmer Drive, First Street, Lincoln Drive, and East 38th Avenue. 7th Street and 8th Street serving the Bennett School District campus have also received special attention and consideration. Key future Town roads and streets currently under design or construction development include Cedar Street, Pearl Street, Civic Center Drive, and Penrith Road.

The Town of Bennett undertook a major street improvement project in 1984, which saw the concrete paving of Old Town Bennett streets north of the UPRR, as well as concrete paving of Town streets from Kiowa Street to abutting Colfax Avenue on the south side. In 2016, the Town oversaw the reconstruction of 13 miles of Town streets. This essentially included all residential streets within the Town, including selective concrete pavement panel replacement for Old Town and other areas of the 1984 street project.

A complete description including drawings, schematics, and a detailed system inventory resides in the Town's active GIS platform.

## ASSESSMENT/ EVALUATION

The Town's existing roadway system infrastructure was evaluated and assessed with regard to its ability to serve the

Town's needs for a 10-year planning period (Year 2029). The capacity, capability, and criticality of the Town's roadways including connections, redundancy and emergency response routes, pavements, shoulders, widths, lanes, intersection controls, and major interchanges was evaluated. The assessment used various tools to identify capacity deficiencies and needs. The capacity assessment and tracking tools are included the C.A.I.M.P. project GIS database and will be reviewed and updated annually as actual growth occurs.

In the future, the Town of Bennett will keep its GIS road database in part to satisfy requirements of the Colorado Department of Transportation (CDOT), acting on behalf of the Federal Highway Administration (FHWA), in administering the Highway User Transportation Fund (HUTF). The Town is eligible to receive HUTF funding every year, depending on submitting a complete Town road inventory, including pavement types, lengths, widths, lanes, shoulders, materials, thicknesses, overlays, and conditions.

## RECOMMENDATIONS/ CIP

The assessment and evaluation process identified infrastructure improvement needs and recommended capital improvements projects. These projects were then entered into the Town's GIS database in the GIS "CIP Dashboard". The dashboard contains detailed information on each recommended project including cost, description, timing, and location. In summary, the assessment recommended 31 capital projects with a total value of \$16.48 MM be implemented over the next 10 years.

## NEXT STEPS

The Town will continue to use the assessment and planning tools developed by the C.A.I.M.P. project to identify deficiencies and needs and define recommended capital improvements projects. As these projects are identified, they will be entered into the Town's GIS program.



# FACILITIES

## EXISTING INFRASTRUCTURE SUMMARY

The quality and capabilities of the public facilities and services offered in a community can enhance the livability and economic potential of a community. In Bennett, these facilities and services are provided by the Town and a number of partners and other service providers.

The Public Facilities and Services Element provides a policy framework to guide the Town and its partners in delivering the facilities and services needed to contribute to the overall high quality of life in the Town.

One of the many responsibilities of any Town is to provide, or ensure the supply from other providers, of public services and facilities adequate to serve the needs of existing and future residents. This holds true for current and future businesses in the Town. The desire to provide quality public services is one of the biggest goals of the Town of Bennett. These services help contribute to the public's quality of life and make the Town a more desirable place to live, work, and play.

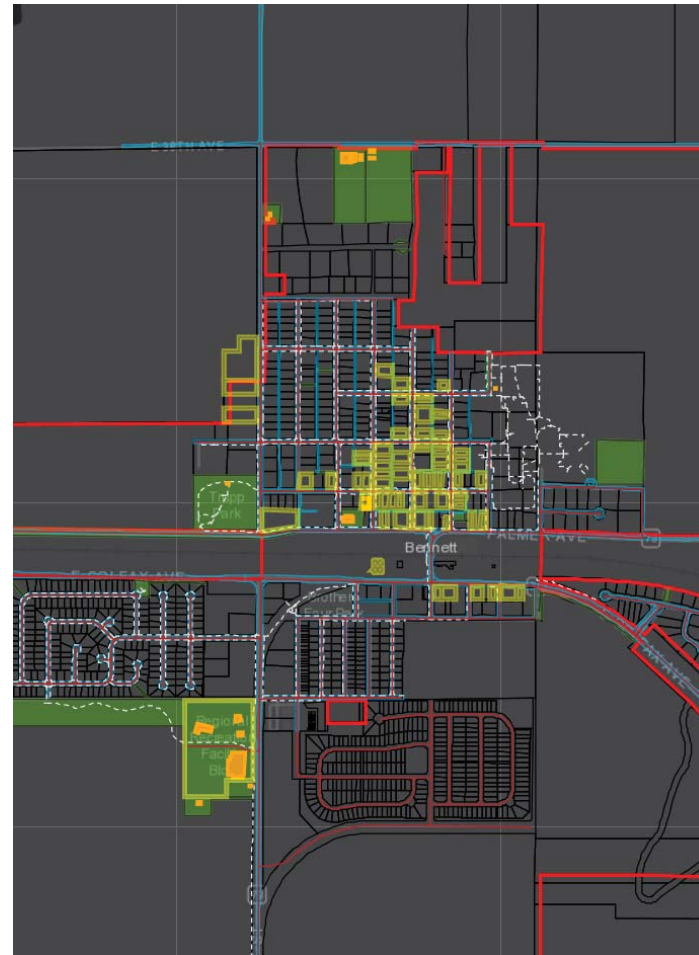
The C.A.I.M.P. facilities assesment section within GIS provides the policy guidance that will be used by the Town concerning the provision of public facilities and services in the Town.

## BASIS OF PLANNING AND DESIGN

Town staff and elected officials will partner with residents to ensure that excellent public services and facilities are provided to meet the needs of residents and businesses in the Town and MPA. Additionally, the Town will ensure the provision of adequate public services and facilities to the existing areas of the town and to ensure that new development is served by an appropriate range of public services. Furthermore, the Town will prioritize public infrastructure improvements and investments to optimize service to existing development and new economic development opportunities.

The assessment and evaluation process identified infrastructure improvement needs and recommended capital improvement projects. These projects were then entered into the Town's GIS database in the GIS "CIP Dashboard". In addition, the Town of Bennett Land and Buildings Map within the GIS content has detailed list of the following attributes:

- Historic Properties
- Town Buildings
- Road Centerline
- Sidewalks
- Pavement Edge
- Town of Bennett Owned Parcels - AdamsCounty
- Town of Bennett Owned Parcels - ArapahoeCounty
- Municipal Boundary



- Parcels - AdamsCounty
- Parcels - ArapahoeCounty

## RECOMMENDATIONS/ CIP

To secure and plan sites for future public facility and utility infrastructure, including locations called out in Town's GIS dashboard. Construct public facilities to be adaptable to new functions, technologies, and trends. Consider implementing and installing photovoltaic or other sustainable renewable designs as part of new public facilities and facility renovations.

## NEXT STEPS

The Town will continue to use the assessment and planning tools developed by the C.A.I.M.P. project to identify deficiencies and needs and define recommended capital improvements projects. As these projects are identified, they will be entered into the Town's GIS program.

The Town has developed a series of cascading stormwater ponds southeast of Centennial Addition for events greater than the current pond and storm sewer capacities can accommodate. The Town is also working with developers and property owners to the east side of the Centennial Addition residential regarding development of a true bypass channel for overflows to divert east and north to existing culverts at Colfax Avenue and the Union Pacific Railroad (UPRR), ultimately draining to the Trupp Park regional detention pond.

The Town worked with a major developer and homebuilder at the Bennett Crossing land development towards diverting flows from the former Renner Farm property, away from the Brothers Four area, and directing stormwater flows directly east to Kiowa Creek. There are limited areas near SH 79 that will still continue north through the Brothers Four area, but the great 98 percent majority of the property is now approved and designed to drain to Kiowa Creek. This was a significant commitment, effort and improvement to reduce stormwater tributary to Brothers Four, and protect not only the subdivision and residences, but all of the infrastructure and Town north of Brothers Four, including the Brothers Four pond, Trupp Park and all related infrastructure.

The other current major conveyance in North Bennett is the Unnamed Tributary to Lost Creek which extends from eastern Old Town Bennett, including the Shari's Court Industrial Park, the Bennett School District Campus, the Newby Farm, and adjacent areas, northwest to the Town's Wastewater Treatment Facility (WWTF) and property, on East 38th Avenue. This is the Unnamed Tributary to Lost Creek that accepts and conveys Town WWTF releases, along with other Town stormwater drainage, north to confluence with the Lost Creek channel main stem, approximately ten (10) miles north of the Town of Bennett town limits.

## Stormwater Storage

Trupp Park ,Brothers Four Pond, Centennial Park, Cordella Micro-Mini Pond, Darco Road Pond, Centennial Buffer Pond, Town Hall Pond, DMV Pond, Rec Center Pond, King Soopers Pond, Love's-McDonald's Pond, Tractor Supply Pond, Conoco Pond, LGI Ponds, Bennett Crossing Pond, Antelope Hills Upper Pond, Antelope Hills Lower Pond, Antelope Hills Northwest Pond, Antelope Hills Lot 8 Pond

## BASIS OF PLANNING AND DESIGN

The Town relies upon the Urban Drainage & Flood Control District (UD&FCD) Stormwater Drainage Design & Technical Criteria Manual, as well as the Town of Bennett Stormwater Drainage Criteria Manual, which was derived from an earlier version of the UD&FCD series. The Criteria Manuals guide expected stormwater conveyance treatments, as well as detention volumes and methods, with prescribed

maximum allowable release rates for land development. The intention of the Town Criteria is that all development is responsible for stormwater management, and infrastructure, to prevent adverse impacts to downstream improvements and properties. The core of this is requirements to provide for developed stormwater to meet or exceed historic levels for stormwater quality as well as peak flood flows downstream. This is challenging and unique in Bennett and other rural, agricultural and plains communities due to very low historic runoff, minimal historic base flows, and lack of clear, defined drainageways and channels, aside from major area Creeks. Bennett has been working with the development and homebuilding community towards pioneering new stormwater management methods, emphasizing infiltration and oversized storage pond volumes, in order to best mimic or even improve on historic stormwater drainage management in our area.

## ASSESSMENT/ EVALUATION

The Town's existing stormwater system infrastructure was evaluated and assessed by the Town's engineering consulting team as well as Town Public Works staff. The stormwater system was reviewed with regard to its ability to serve the Town's needs for a 10-year planning period (Year 2029). The capacity, capability, and criticality of the Town's stormwater collection, conveyance, storage and outfall were evaluated. The assessment used various tools including spreadsheets and a computer water model to identify capacity deficiencies and needs. The water model and capacity assessment spreadsheet tools are included the C.A.I.M.P. project GIS database and will be reviewed and updated annually as actual growth occurs.

## RECOMMENDATIONS/ CIP

The assessment and evaluation process identified infrastructure improvement needs and recommended capital improvements projects. These projects were then entered into the Town's GIS database in the GIS "CIP Dashboard". The dashboard contains detailed information on each recommended project including cost, description, timing, and location. In summary, the assessment recommended 21 capital projects with a total value of \$2.97 MM be implemented over the next 10 years. A detailed summary list or details on any individual project can be generated by the Town's GIS program on demand.

## NEXT STEPS

The Town will continue to use the assessment and planning tools developed by the C.A.I.M.P. project to identify deficiencies and needs and define recommended capital improvements projects. As these projects are identified, they will be entered into the Town's GIS program.



# PARKS, TRAILS & OPEN SPACE

The Town of Bennett's parks, trails, and open spaces reflect the high quality of life inherent in the community. Looking toward the future, this Master Plan will create the vision that builds upon these important community assets in an aesthetically pleasing, active, and sustainable system that further enhances the strong sense of community experienced by residents.

Supplemental to this narrative the Town engaged with Norris Design to build a robust Parks, Trails, and Open Space Master Plan. The non-regulatory document to be used to inform Town staff, the Board of Trustees, local and regional stakeholders, and developers when considering future park and trail needs. As the Town continues to grow and change, it is likely that the plan will need to adjust to reflect community priorities as they evolve.

## PURPOSE

Parks, trails, open spaces, and recreation opportunities are a vital component of any community. In the Town of Bennett, the established parks and trails have a significant role. They provide memorable places for community gatherings such as Bennett Days, opportunities for families to come together, and they create connections for bicycle and pedestrian travel around town. These assets reinforce the open spaces and agricultural heritage that are an ingrained characteristic of the community.

This Master Plan will provide a framework for community leaders to prioritize resources for existing and future park and recreation programs and facilities. The Master Plan will serve as a tool to:

- Identify the goals and priorities of residents and community leaders to determine the future direction of parks, trails, and recreation facilities and programs;
- Provide land use policies for the development of park facilities
- Provide direction on capital improvements;
- Support the goals of the Comprehensive Plan and Trails Plan; and
- Support economic development and public health.

## APPROACH

The Town of Bennett Parks, Trails, and Open Space Master Plan process consisted of a series of objective evaluation tools as well as community and stakeholder outreach processes. The combination of these approaches resulted in

a plan that is built upon community ideas and informed by local agencies, population trends, land use policies, operations, capital, and budgetary priorities.

The various components of the plan include:

- **Relevant Plan Review:** An assessment of local and regional plans adopted by the Town of Bennett, Adams and Arapahoe County, and other regional governing bodies.
- **Community and Stakeholder Engagement:** Outreach efforts to gain feedback from community members and local organizations affiliated with parks and recreation.
- **Inventory and Analysis:** Review of the existing parks, trails, and facilities throughout the Town and determination of potential improvements.
- **GIS Inventory:** Development of a Geographic Information Systems (GIS) parcel level map of existing and future parks, trails, and open spaces to be utilized with the Town's GIS system for future planning.
- **Recommendations:** Identification of goals and recommendations for future park and recreation guidelines, facilities, services, partnerships, and programs.

## ASSESSMENT/ EVALUATION

A complete description including drawings, schematics, and a detailed system inventory resides in the Town's active GIS platform. A summary of key components follows:

- **TRUPP PARK (7.1 ACRES)**  
Trupp Park is located at the corner of Palmer Avenue and 1st Street.
- **COMMUNITY PARK (1.7 ACRES)**  
Community Park is located at the intersection of Highway 79 and Palmer Avenue.
- **BROTHERS FOUR PARK (2.9 ACRES)**  
Brothers Four Park is located southeast of the intersection of State Highway 79 and State Highway 36.
- **CENTENNIAL PARK (0.4 ACRES)**  
A small neighborhood park, Centennial Park is tucked into the Centennial neighborhood, at the intersection of Madison Way and Hancock Court.
- **BENNETT COMMUNITY CENTER (0.4 ACRES)**  
Located on the western end of the Centennial neighborhood by the intersection of McKinley Drive and East Colfax Avenue, Bennett Community Center features an outdoor park space.
- **BENNETT REGIONAL PARK & OS (200 ACRES)**  
Nestled within the Antelope Hill Subdivision on the South side of I-70.
- **FUTURE PARK (3 ACRES)**  
This active playground park is located with the Antelope Hills Subdivision.

## RECOMMENDATIONS/ CIP

The Town of Bennett Parks, Trails, and Open Space Master Plan provides the Town with a series of overall recommendations to enhance the physical features of parks, trails, and open spaces, suggested improvements to existing park facilities, and future policy guidelines to consider as the Town moves forward. The recommendations focus on these key areas:

- General Recommendations
- Policy Guidelines
- Future Improvements for Parks, Recreation, and Trails
- Improvements to Existing Parks

## NEXT STEPS

A significant finding from the existing parks analysis is the lack of athletic fields within the Town. With local participation in

baseball and soccer youth leagues growing, suitable facilities are not keeping up with demand. Youth baseball and softball leagues must share their field with Bennett High School. The youth soccer league holds games and practices at Trupp Park but the only field large enough for U10 age group matches is located in a drainage basin, making the field unusable after inclement weather. Participation rates in these leagues are increasing and as the Town seeks opportunities to accommodate demand with suitable facilities in future parks it can look to the park classifications outlined in the 2009 Parks, Trails and Open Space plan.

The Town will continue to use the assessment and planning tools developed by the C.A.I.M.P. project to identify deficiencies and needs and define recommended capital improvements projects. As these projects are identified, they will be entered into the Town's GIS program.



**175 KIDS**  
PLAY SOCCER THROUGH  
**EASTERN YOUTH**  
SOCCER ASSOCIATION




**BENNETT**  
PARKS & REC HAS  
**470**  
MEMBERS  
OF ACTIVE CITIZENS



**BENNETT PARKS & REC'S**  
**SILVER SNEAKERS PROGRAM**  
HAS 120 MEMBERS  
& THE THIRD HIGHEST RETENTION  
**RATE IN THE NATION**



THE TOWN OF BENNETT HAS OVER  
**200 ACRES**  
OF PROTECTED OPEN SPACE



THE TOWN OF  
**BENNETT**  
HAS OVER SIX MILES  
OF WALKING &  
**BIKING TRAILS**



**150 KIDS**  
PLAY BASEBALL THROUGH  
**BENNETT YOUTH**  
**LEAGUE**  
BASEBALL



# PARKS, TRAILS, & OPEN SPACE MASTER PLAN

JULY 2019



# ACKNOWLEDGMENTS

## Board of Trustees:

- Royce Pindell, Mayor
- Rich Pulliam, Mayor Pro Tem
- Charles Bayley, Trustee
- Larry Vittum, Trustee
- Darvin Harrell, Trustee
- Neal Mancuso, Trustee
- Phyllis Webb, Trustee

## Town Staff and Consultants:

- Trish Stiles, Town Administrator
- Rachel Summers, Deputy Town Administrator
- Daymon Johnson, Public Works Director
- Robin Price, Public Works Parks Supervisor

This project was funded in part by a grant from Adams County Open Space. The Town of Bennett would like to thank Adams County Open Space for their contribution to this study. The project team would like to thank the following individuals at Adams County Open Space for their time and involvement:

- Shannon McDowell, Open Space Program Manager
- Renee Peterson, Open Space Grant Coordinator

The Town of Bennett would like to thank Arapahoe County Open Space for their work and contributions to parks and trails in the Town of Bennett. The project team would like to thank the following individuals at Arapahoe County Open Space for their time and involvement:

- Josh Tenneson, Grants and Acquisitions Manager
- Sandy Bottoms, Grants Program Administrator

Special thanks to the many Bennett residents and local area stakeholders who gave their valuable input and time through the community questionnaire, participation in the Engage Shape Build Event, and other meetings to contribute to the Town of Bennett's Parks Plan Update.



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- 36 RECOMMENDATIONS

**DID  
YOU  
KNOW?**



**175 KIDS**

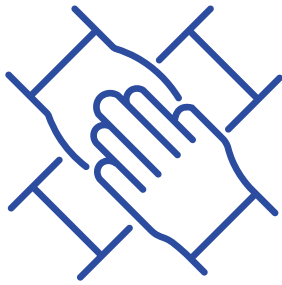
PLAY SOCCER THROUGH  
**EASTERN YOUTH**  
SOCCER ASSOCIATION



THE TOWN OF BENNETT HAS OVER

**200 ACRES**

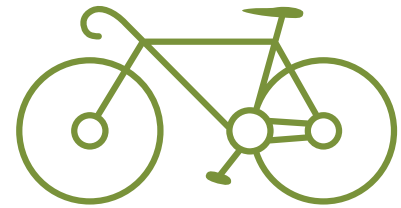
OF PROTECTED OPEN SPACE



BENNETT  
PARKS & REC HAS

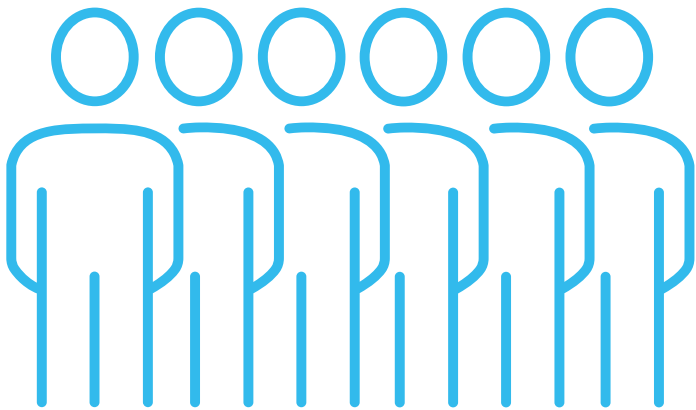
**470**

MEMBERS  
OF ACTIVE CITIZENS



THE TOWN OF  
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HAS OVER SIX MILES  
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BIKING TRAILS



BENNETT PARKS & REC'S  
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PLAY BASEBALL THROUGH  
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**LEAGUE**  
BASEBALL

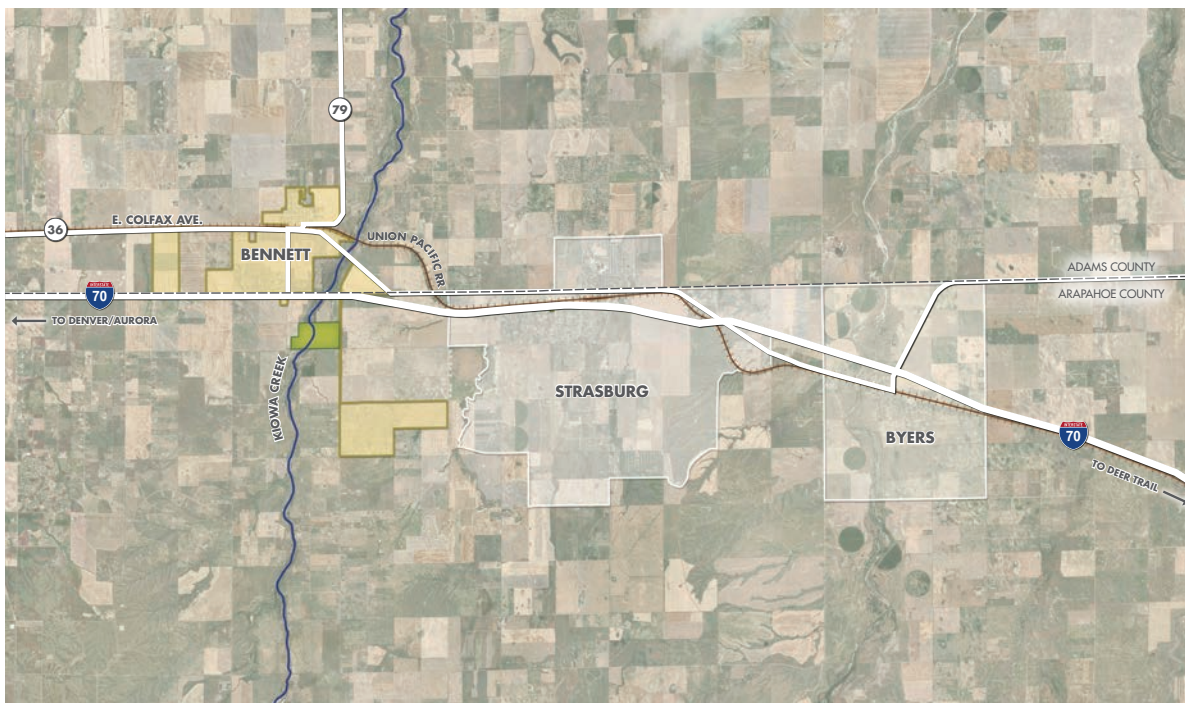
# INTRODUCTION

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## INTRODUCTION

In 2019, the Town of Bennett began an update of their Parks, Trails, and Open Space Master Plan (Master Plan). This document will establish a vision for the Town over the next 10 years, giving them a plan with which to manage and enhance existing parks, as well as plan for future parks, open spaces, and trail connections throughout the community. This plan was informed by community input, an inventory of existing parks and trails, and future land use plans and policies.

Bennett, Colorado is located on the eastern plains of the state, approximately 30 miles to the east of Denver, Colorado, along Interstate 70. Most of the Town is located within Adams County, while the 940-acre subdivision of Antelope Hills to the south of the Town is located within Arapahoe County. The Town is located on the western end of a corridor of communities along Interstate 70. Bennett, Strasburg, Byers and Deer Trail are all separate municipalities, but these neighboring communities can be viewed collectively as a region. Bennett is currently home to approximately 2,500 residents and continues to experience a strong growth rate. Over the next ten years Bennett is anticipated to add approximately 1,600 acres of development area. To accommodate future growth the Town has undertaken several planning efforts based around their Capital Asset Inventory Master Plan (C.A.I.M.P). This visioning process was an opportunity to update existing Town plans including the previous Parks, Trails, and Open Space Master Plan from 2009.



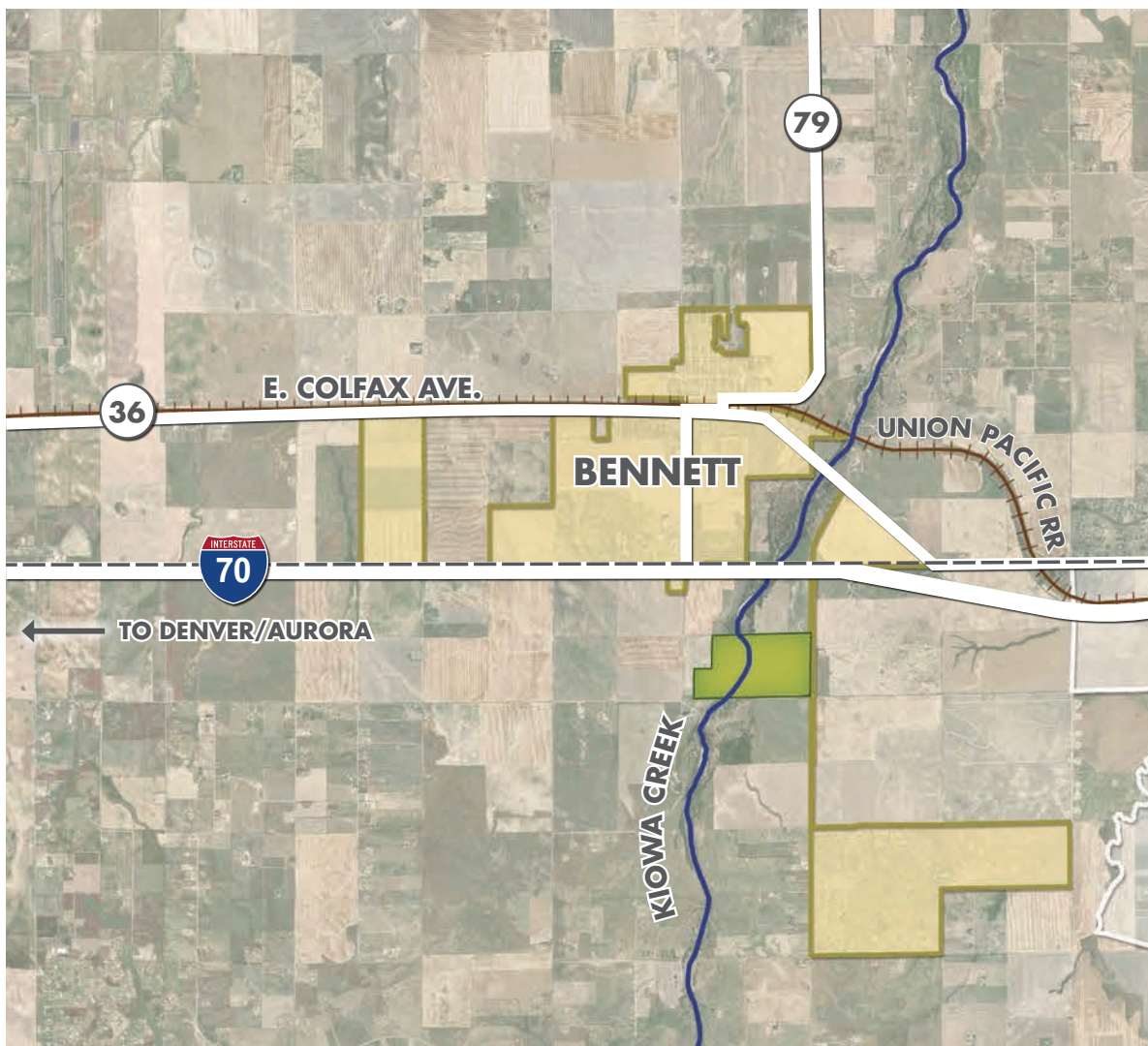




The Town of Bennett’s parks, trails, and open spaces reflect the high quality of life inherent in the community. Looking toward the future, this Master Plan will create the vision that builds upon these important community assets in an aesthetically pleasing, active, and sustainable system that further enhances the strong sense of community experienced by residents.

The Parks, Trails, and Open Space Master Plan is a non-regulatory document to be used to inform Town staff, the Board of Trustees, local and regional stakeholders, and developers when considering future park and trail needs. As the Town continues to grow and change, it is likely that the plan will need to adjust to reflect community priorities as they evolve.

The Town of Bennett is 5.8 square miles in size. About 75% of the Town’s land area is located to the north of Interstate 70, within Adams County. The 940-acre subdivision of Antelope Hills, to the south of Interstate 70, is located within Arapahoe County.



## PURPOSE

Parks, trails, open spaces, and recreation opportunities are a vital component of any community. In the Town of Bennett, the established parks and trails have a significant role. They provide memorable places for community gatherings such as Bennett Days, opportunities for families to come together, and they create connections for bicycle and pedestrian travel around town. These assets reinforce the open spaces and agricultural heritage that are an ingrained characteristic of the community.

This Master Plan will provide a framework for community leaders to prioritize resources for existing and future park and recreation programs and facilities. The Master Plan will serve as a tool to:

- Identify the goals and priorities of residents and community leaders to determine the future direction of parks, trails, and recreation facilities and programs;
- Provide land use policies for the development of park facilities
- Provide direction on capital improvements;
- Support the goals of the Comprehensive Plan and Trails Plan;
- Support economic development and public health.

## APPROACH

The Town of Bennett Parks, Trails, and Open Space Master Plan process consisted of a series of objective evaluation tools as well as community and stakeholder outreach processes. The combination of these approaches resulted in a plan that is built upon community ideas and informed by local agencies, population trends, land use policies, operations, capital, and budgetary priorities. The various components of the plan include:

- Relevant Plan Review: An assessment of local and regional plans adopted by the Town of Bennett, Adams and Arapahoe County, and other regional governing bodies.
- Community and Stakeholder Engagement: Outreach efforts to gain feedback from community members and local organizations affiliated with parks and recreation.
- Inventory and Analysis: Review of the existing parks, trails, and facilities throughout the Town and determination of potential improvements.
- GIS Inventory: Development of a Geographic Information Systems (GIS) parcel level map of existing and future parks, trails, and open spaces to be utilized with the Town's GIS system for future planning.
- Recommendations: Identification of goals and recommendations for future park and recreation guidelines, facilities, services, partnerships, and programs.

# PLANNING PROCESS AND COMMUNITY ENGAGEMENT

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## PLANNING PROCESS AND COMMUNITY ENGAGEMENT

Public involvement was an important component of the Master Plan process. Engagement with key stakeholders, community members, and Town staff resulted in a plan that reflects the goals and priorities of the community and has identified a direction to move forward.

The planning process included various methods to gain feedback, understand the context of the community, and identify the needs and priorities for parks, trails, and open spaces. This process included:

- Participation in the *Engage. Shape. Build.* community engagement event.
- 12 meetings held with Town staff and stakeholders
- Six on-site inventory and analysis visits

### ENGAGE. SHAPE. BUILD. COMMUNITY ENGAGEMENT EVENT.

On March 27, 2019 the Town of Bennett held a community open house titled Engage. Shape. Build. in which members of the community were invited to give feedback on numerous topics related to the future growth of the Town. The project team used this event as an opportunity to gain public insight into future parks, trails, and open space plans. The team shared maps and project information and spoke with Bennett residents about their vision for parks and trails within the Town. A questionnaire was distributed that asked participants questions about how they use the Town's parks and trails and what future investments they would like to see. Community members were asked to draw on a Town map where they traveled around the Town. People in attendance were more than eager to participate and discuss the role that the Town's parks, trails, and open spaces play in their daily life.



# ENGAGE. SHAPE. BUILD. FEEDBACK

## GENERAL COMMENTS FROM THE COMMUNITY

Create a pedestrian route connecting the Cordella neighborhood to the Post Office.

Create a bike / trail connection crossing Palmer Avenue, railroad, & Colfax Avenue, connecting the north & south sections of 1st Street.

A trail connection / bridge / underpass crossing Palmer Avenue, railroad, & Colfax Avenue, connecting the north and south sections of 3rd Street.

Additional benches and shade for existing trails.

Make it safer to walk.

Add a sidewalk connection to Adams Street from the Bennett Crossing subdivision.

Add more trees to provide shade.

Add swings to Centennial Park.

The Agricultural Heritage Trail should be educational and feature sculptures and art.

## SURVEY QUESTIONS RESULTS

### WHAT IS YOUR REASON FOR VISITING BENNETT'S PARKS?

- WALKING
- PLAYGROUNDS
- EVENTS
- EXERCISE
- CYCLING
- GAMES / RECREATION

### WHAT FUTURE AMENITIES & PROGRAMS WOULD YOU LIKE TO SEE?

- COMMUNITY GARDENS
- WALKING & BIKING TRAILS
- DISC GOLF
- RESTROOMS
- PUBLIC ART

### WHAT TYPE OF INVESTMENT IN HEALTH & WELLNESS WOULD YOU LIKELY USE?

- WALKING & BIKING PATHS TO CONNECT PARKS, SCHOOLS, & NEIGHBORHOODS
- FITNESS CLASSES IN THE PARK
- GROUP WALKS / RUNS ON EXISTING TRAILS
- OUTDOOR EXERCISE STATIONS

### HOW DO YOU USE EXISTING TRAILS?

- EXERCISE
- TRANSPORTATION



## STAKEHOLDER ENGAGEMENT

Stakeholder meetings were held with representatives from the various organizations listed below. These organizations currently provide services and programs that support the continued development of parks and recreation facilities and programs within the Town of Bennett. Throughout this process, these stakeholders provided important contributions to the Master Plan process.

- **Bennett Parks and Recreation District**
- **Adams County Open Space**
- **Arapahoe County Open Space**
- **Bennett Youth League Baseball**
- **Eastern Plains Youth Soccer Association**

## STAKEHOLDER FINDINGS

### NEED FOR ATHLETIC FACILITIES

A significant takeaway from the stakeholder outreach was the need for more athletic facilities within the Town. Baseball and soccer youth sports are growing in the region; however, the Town's existing facilities cannot meet the capacity for the demand. This need for more athletic facilities was made clear through meetings with local youth sports organizations.

#### **Bennett Youth League Baseball (BYLB)**

Operates three baseball leagues with a total of around 150 participants. The organization uses two fields at Bennett High School to hold games, but these facilities can prove challenging from an operational and scheduling perspective as BYLB must share the south field with the high school baseball team during overlapping seasons. The north field is a dirt-only field so inclement weather and maintenance concerns impact their ability to play games. BYLB also lacks sufficient practice space. Currently practices are held at the former football field to the west of the school, which does not provide enough space.

#### **Eastern Youth Plains Soccer Association (EPYSA)**

Is comprised of roughly 180 participants. The organization operates at Trupp Park holding soccer matches on Saturday mornings and practices throughout the week. Occasionally practices will be held at Community Park if field conditions at Trupp Park are not ideal. The EPYSA's biggest concern is the quality of the grass on their playing fields. Field orientation and the existing topography in Trupp Park results in water draining onto the field which impacts field conditions. The association has grown in recent years and is currently at capacity leaving them with a challenge to find enough space to play and practice.

Through this process it has become evident that the existing athletic facilities do not meet the demand, and this has led participants to join leagues in other communities in the Front Range.

Future park programming should explore options for expanding athletic facilities to meet the growing demand for popular sports like baseball and soccer.

### **OPPORTUNITIES FOR PARTNERSHIPS**

Bennett is located at the western end of a corridor of communities along Interstate 70. Bennett, Strasburg, Byers and Deer Trail are all separate municipalities, but these neighboring communities can be viewed collectively as a region. Bennett Youth League Baseball and Eastern Plains Youth Soccer Association include participants from along the corridor and it's not uncommon for residents to travel between town's for use of park facilities. These types of interconnections are suitable to share resources and programming as a region. Future partnerships between municipalities and Parks and Recreation Districts in the area may lead to additional services for residents along the corridor.

#### **Bennett Park and Recreation District (BPRD)**

Is a Special District that provides local residents with recreational services, including youth and adult sports leagues, fitness classes, and aquatics programs. The BPRD operates a recreation center within the Town and has about 470 members. The District's Silver Sneaker program has 120 members and has the 3rd highest retention rate in the nation.

The Bennett Parks and Recreation District was established in 2002 as part of a bond approval and serves residents along the Interstate 70 corridor. With a long-established and successful presence, BPRD is the lead organization for recreation and fitness programming in the community. Through the Master Plan process the incorporation of additional athletic and fitness programs into future park facilities has been identified as a goal. Moving forward this offers an opportunity for the Town and BPRD to collaborate on future recreation and fitness needs as they have mutually beneficial roles that would serve the growing demand for athletic programs and park development in the community.

Both Adams County and Arapahoe County continue to play an important role in parks, open space, and trails development within and around the Town of Bennett. Plans by both counties focused on regional connectivity and open space preservation along Kiowa Creek will have a significant impact on Bennett by expanding trail and open space access for Town residents. Both counties continue to seek opportunities for collaboration with Bennett to properly meet the future needs of the growing community.



# ANALYSIS OF EXISTING PARK AND TRAIL FACILITIES

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# TRUPP PARK

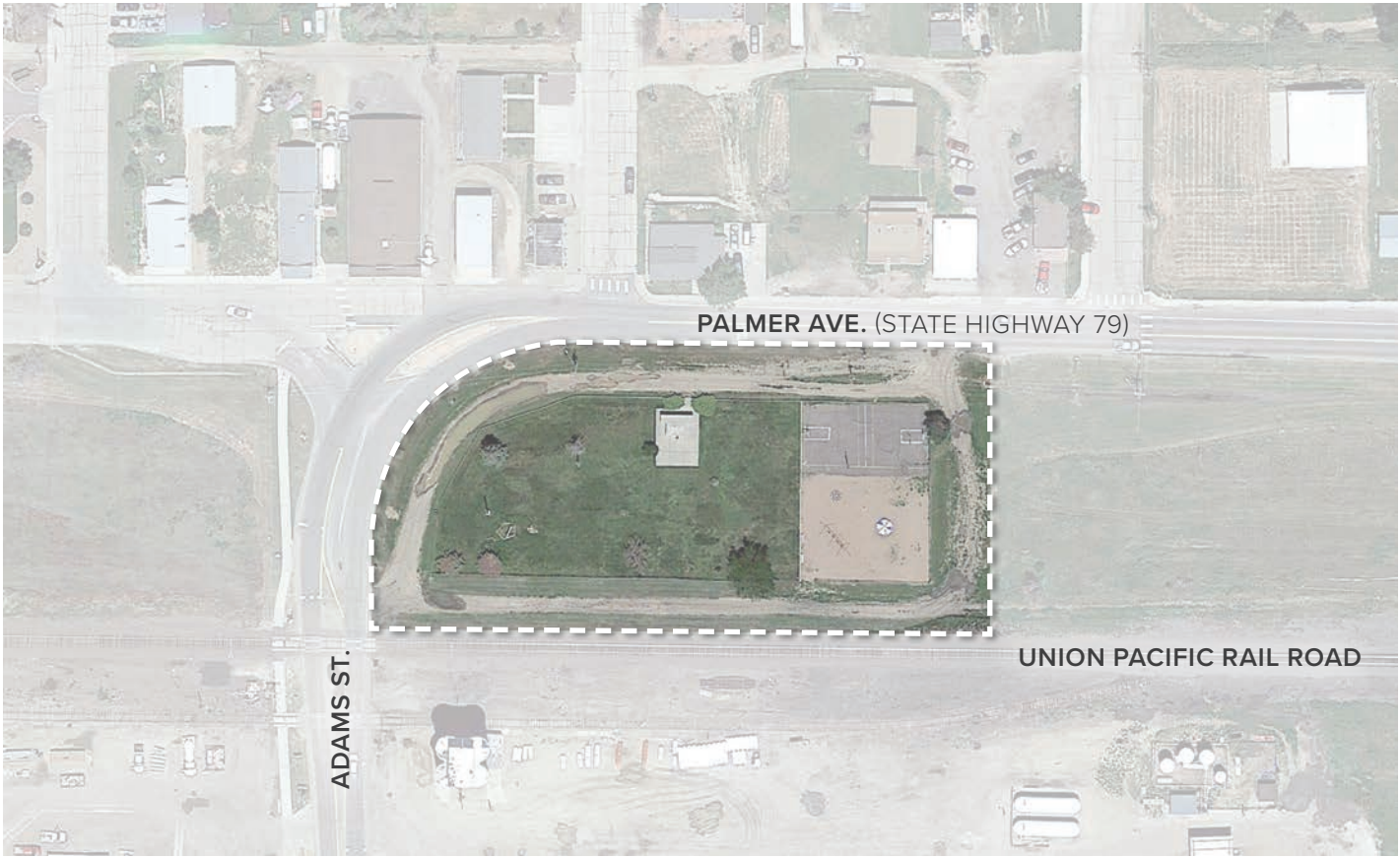
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## TRUPP PARK (7.1 ACRES)

Trupp Park is located at the corner of Palmer Avenue and 1st Street. At approximately 7.1 acres in size, Trupp Park is the Town's main park and the location of Bennett Days, an annual community parade and festival. Trupp Park is also the Town's most diverse park in terms of programmatic elements, featuring a large playground, a gathering space, two multi-use fields, a stage, and a skate and bike park. The playground area of the park is relatively new and the play structures are in great condition. Eastern Plains Youth Soccer Association hosts games every Saturday from the spring to the fall on the two multi-use fields of the park.

## KEY CONSIDERATIONS

- Re-grading of the large multi-use field will provide opportunities to reconfigure drainage, improve planting and soil conditions, and provide a larger area to expand and redesign the primary athletic field.
- Improve the aesthetic appeal and pedestrian experience along the sidewalk on the south side of the park by removing the railroad ties and planting additional trees to provide shade.
- Add trees throughout the park to provide shade.
- Consider repurposing the skate park pool as a gathering area with a shade structure.
- Installation of bike racks.



# COMMUNITY PARK

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## COMMUNITY PARK (1.7 ACRES)

Community Park is located at the intersection of Highway 79 and Palmer Avenue. The park is adjacent to the Union Pacific Railroad tracks and the land is owned by the railroad company. The park features a large open field, a basketball court, playground amenities, and a closed restroom structure. Though it has many amenities for different park users, the facilities are in disrepair. Access to the park is a particular challenge with no pedestrian infrastructure surrounding the park and the lack of a designated parking area. Occasionally Eastern Plains Youth Soccer Association holds soccer practice at this park when the field at Trupp Park is unusable.

The park's location adjacent to the intersection of a state highway and railroad crossing with no sidewalk connections has been identified as a barrier to pedestrian access. Future capital improvements that focus on park amenities need to also consider investment in pedestrian infrastructure improvements that will address safety provisions for pedestrian access to the park.

## KEY CONSIDERATIONS

- Pedestrian infrastructure improvements to address safe pedestrian access to the park.
- Consider recommendations for park improvements as outlined in the 2009 Master Plan.





# BROTHERS FOUR PARK

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## BROTHERS FOUR PARK (2.9 ACRES)

Brothers Four Park is located southeast of the intersection of State Highway 79 and State Highway 36. The linear park runs along a key Town trail providing an expanded greenway. This greenway is heavily used by pedestrians and school children as it is not only a pleasant path buffered from State Highway 36 but it is also an important connection for those walking from the southern half of Town to the northern half. While the main function of the park is a community trail, there are two programmed nodes located along the walk. The first is a small playground and shade structure just north of the intersection of Kiowa Street and Ash Street. The second is a gathering area of two picnic tables beneath a grove of trees, next to the path, near the park's eastern entrance at Cherry Street.

## KEY CONSIDERATIONS

- Streetscape improvements to enhance pedestrian travel at the southern, western, and eastern entrances of the park.
- Landscaping enhancements along the path and around the playground.
- Public art enhancements along the trail.
- Addition of trees or shade structures along the path to provide shade.
- Improvements to benches and tables at gathering areas located along the trail.
- Addition of lighting fixtures along the trail.
- Installation of bike racks.



# CENTENNIAL PARK

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## CENTENNIAL PARK (0.4 ACRES)

A small neighborhood park, Centennial Park is tucked into the Centennial neighborhood, at the intersection of Madison Way and Hancock Court. Though it is small in size, the park features ample amenities including playground structures as well as a shade structure with two picnic tables for seating. These park amenities were recently upgraded as part of a redesign.

## KEY CONSIDERATIONS

- Addition of lighting fixtures.
- Consider drainage improvements.
- Installation of bike racks.



# BENNETT COMMUNITY CENTER

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## BENNETT COMMUNITY CENTER (0.4 ACRES)

Located on the western end of the Centennial neighborhood by the intersection of McKinley Drive and East Colfax Avenue, Bennett Community Center features an outdoor park space. The park includes a shelter, play structure, basketball court, and outdoor exercise equipment. The existing infrastructure is in good condition. Future trail improvements in the Town envision a trail connection extending to the Community Center.

## KEY CONSIDERATIONS

- Pedestrian infrastructure improvements to enhance pedestrian access at the southern and eastern entrance to the park.
- Replace missing shade cover on the existing play structure.
- Landscaping enhancements around the park particularly along the southern and western edge.
- Installation of bike racks.



# GROWTH AREA

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## GROWTH AREA

This Master Plan strives to provide a vision that reflects the Town's commitment to parks and recreation, ensuring that future residents have access to safe, healthy, and aesthetically pleasing parks, trails, and open spaces.

Looking ahead, there are several growth areas planned throughout the Town. These potential developments total nearly 1,600 acres. While the proposed plans are at various stages of development, ranging from under construction to the conceptual phase, collectively they begin to paint a picture of how the Town could look in the future.

These future plans allocate nearly 140 acres of land to parks and open space. The development of new neighborhoods also offers opportunities for expanding trails and ensuring pedestrian connectivity with the existing parts of the Town. The map on the following page shows potential parks, trails, and open spaces within the future growth areas. All future planned parks on the map, with the exception of Civic Center Park, will be maintained by private entities such as a local Homeowner's Associations (HOA) or Metro District (MD).

## TRAILS / CONNECTIONS


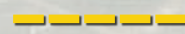

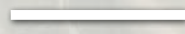
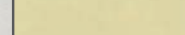
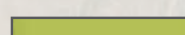
Improving bicycle and pedestrian connections throughout Town is a significant priority moving forward. The entire town core fits within a radius of one mile indicating that many of the community's destinations are within walking distance. As evidenced by those walking to King Soopers for groceries or children heading to and from school, people in Bennett walk to get around.

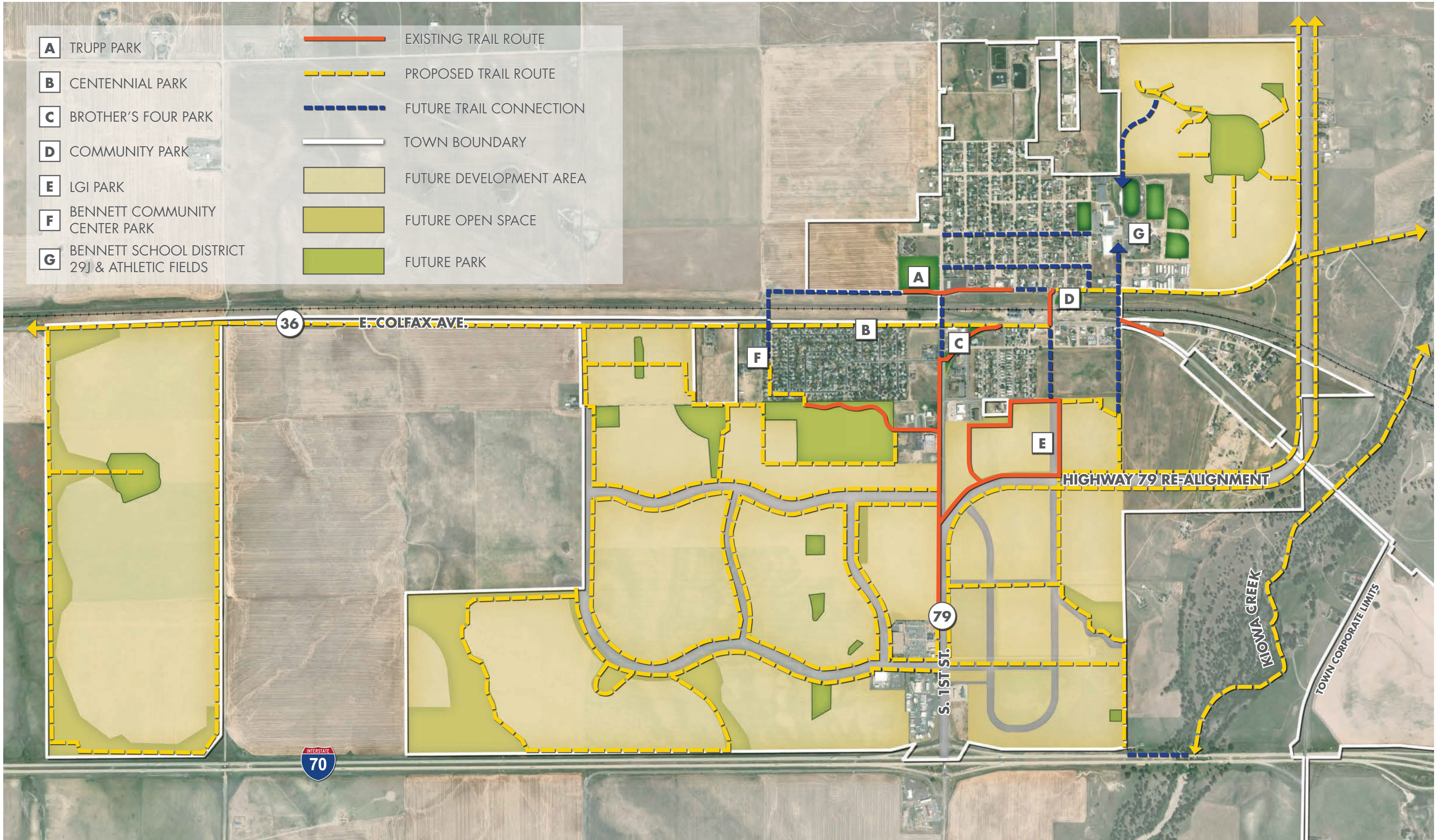
But while travel distance may not be a barrier, existing infrastructure poses significant challenges for those looking to walk or bike across town. With two state highways and a rail line passing through the middle of town, safe routes for pedestrian and bicycle travel are essential. Existing trail connections through Town such as the Brothers Four greenway or the path along 1st Street are key assets that should be built upon to strengthen connectivity throughout the Town.

Currently, there are many segments of trails and sidewalks that do not connect, and some existing trails need improvements that support use by people of all ages and abilities. To identify connectivity opportunities the project team analyzed pedestrian and bicycle travel routes between parks and open space and other local destinations.

While current travel distances within the town core are minor, as the community expands, the need for trail linkages will increase. This Master Plan process looked at future growth areas to determine opportunities for an integrated network of trails throughout the Town's boundaries.

- A** TRUPP PARK
- B** CENTENNIAL PARK
- C** BROTHER'S FOUR PARK
- D** COMMUNITY PARK
- E** LGI PARK
- F** BENNETT COMMUNITY CENTER PARK
- G** BENNETT SCHOOL DISTRICT 29J & ATHLETIC FIELDS

-  EXISTING TRAIL ROUTE
-  PROPOSED TRAIL ROUTE
-  FUTURE TRAIL CONNECTION
-  TOWN BOUNDARY
-  FUTURE DEVELOPMENT AREA
-  FUTURE OPEN SPACE
-  FUTURE PARK



# TOWN OF BENNETT | PARKS, TRAILS AND OPEN SPACE MASTER PLAN

BENNETT, CO | JULY 2019

## AGRICULTURAL HERITAGE TRAIL

Bennett has always been an agricultural community. The Town was first settled by homesteaders and agriculture remains the primary industry of the Town today. Agriculture is an important part of Bennett's identity and the community continues to find ways to promote and celebrate this heritage. The planned improvements for the historic Charles Muegge House and the planned preservation of a historic farmstead on the east side of the Town provide an opportunity to create a trail connection between these two agriculturally focused community assets.

This potential trail corridor offers a unique design possibility to highlight the agricultural history, landscape, and culture of the community. Design elements, such as interpretive signage and interactive exhibits could tell the story of the Town's history as an agricultural community and highlight features and views of the natural prairie landscape. These storytelling features could serve as an outdoor educational opportunity for local school children. Building upon the agricultural heritage theme, community garden beds could be featured along the trail an idea that drew interest during the Engage Shape Build Public Outreach Event. This type of activation will be key to the trail's success and the Town should explore other opportunities for programming such as hosting events like a Farmer's Market or outdoor music at places along the trail such as the civic center area or the planned open space within Bennett Crossing.

As currently designed, the trail is planned to run along the eastern boundary of the Town, but the long-term goal is for it to connect with the planned trail that runs along Kiowa Creek. This will offer Town residents access to the Kiowa Creek and the Kiowa Creek Open Space preserved by Arapahoe County to the south of Interstate 70.





# RECOMMENDATIONS

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The Town of Bennett Parks, Trails, and Open Space Master Plan provides the Town with a series of overall recommendations to enhance the physical features of parks, trails, and open spaces, suggested improvements to existing park facilities, and future policy guidelines to consider as the Town moves forward. The recommendations focus on these key areas:

- **General Recommendations**
- **Policy Guidelines**
- **Future Improvements for Parks, Recreation, and Trails**
- **Improvements to Existing Parks**

## GENERAL RECOMMENDATIONS

- Establish formal agreements defining the role of private entities, such as Homeowners Associations (HOAs) in park ownership and maintenance.
- Review irrigation systems to determine any improvements that will increase efficient water use such as a central control system that communicates with weather systems.
- Encourage the use of drought-tolerant plant materials and low-water use landscaping in future parks and open spaces.
- Develop a parks and trails wayfinding plan that promotes and brands the parks and trails system including park monumentation and wayfinding signage.
- Encourage the installation of bike racks at strategic destinations throughout the Town to promote bicycle travel.
- Explore opportunities for inclusion of public art and park amenities that reflect the character of the community.
- Use social media to promote and communicate with the community about park and trails related activities and events.

## POLICY GUIDELINES

### **Park Typologies**

With over 140 acres of potential park space allocated on future subdivision plans, these park classifications from the 2009 plan provide guidelines for what type of parks and amenities are appropriate for future developments regarding the area and population they would serve at the neighborhood or community level.

### **POCKET PARK**

A pocket park or mini park is designed primarily to attract residents living within a quarter mile of the park. The park is generally a walk-to type park, meaning no parking facilities for automobiles are

normally found. Mini parks' service levels are .25 to .5 acres per thousand residents and the service area is typically ¼-mile radius.

#### **Pocket Park Prototype**

- Average Size: .25 to .5 acres (target size, 3 acres)
- General Concept: Playgrounds for children; benches, tables for adults
- General Purpose: Passive use, serves immediate neighborhood, no parking
- Programs: Unorganized activities

### **NEIGHBORHOOD PARK**

Neighborhood parks normally have between 5 to 20 acres and typically serve a population living within ½-mile of the park. Neighborhood parks conceptually concentrate intense recreation activities and facilities into a limited amount of space. Facilities typical to this park include:

- Playing fields
- Playgrounds
- Shelters
- Walking paths
- Restrooms/Concessions
- Swimming pool
- Parking facilities

Due to the size and scope of activities, accommodating parking is necessary for this type of park. The standard for parking is a minimum of seven spaces for the first ten acres and one additional space for each additional acre. This may vary based upon the activities and program appeal. If team sport facilities or a special feature such as a swimming pool is included, parking spaces in the range of 40 per field or greater will be needed. Although the park is classified as a neighborhood park, the scope of people served can vary based upon densities and the number of other parks available. Typically, one neighborhood park should serve between 10,000 to 20,000 residents, or one to two acres per thousand people, with a typical service area of ½-mile radius.

#### **Neighborhood Park Prototype**

- Average Size: 5 to 20 acres
- General Concept: Active and passive recreation amenities
- General Purpose: Intense active recreation for daytime use within ½-mile radius
- Programs: League practice and play; open space play; not recommended for festivals or large-scale events on a regular basis

## COMMUNITY PARK

Community parks are needed within a system to ensure that all users' recreation needs, and interests are addressed and included. This type of park expands beyond a local neighborhood and its amenities may sometimes appeal to several neighborhoods. The concept behind community parks is to include essentially a one-stop shop for all recreation users. It should include a mix of active and passive activities and attract users of all ages. From sports fields to a community center, the park should provide as many recreation and support services as possible. A park of this size and scope commonly has from 20 to 75 acres; approximately 60 acres is considered a good size for such expansive activities.

### Community Parks Prototype

- Average Size: 20 to 75 acres
- General Concept: Combine passive and active activities into one locale and retain passive areas for non-organized recreation
- General Purpose: Provide a full range of recreational activities for the entire population
- Programs: Active sports and multi-generational activities and passive areas with nature viewing, lake activities and walking

## REGIONAL PARK

The largest park typically found within a system is the regional park. These parks are normally found in large park systems. The size of a regional park varies from 50 to 250 acres, depending on the type of activities and amount of use. The service radius for this type of facility is based upon drive time and is typically within an hour's drive of most users. Conceptually, the regional park is to provide large natural areas that can be accessed through a variety of means, from local roadways to hiking and biking. In addition, based upon the locale, it can have unique recreation areas, such as a water park, sports complex or equestrian facility coupled with natural areas. Regional parks are unique to the general area. Prototypical or preferred amenities vary.

### General Design Considerations for Park Uses

When considering how future parks and open space can best serve its citizens, it is important for the Town to reclassify these areas in terms of both passive and active opportunities. A well-rounded park features both types of spaces and Town landscaping requirements and design guidelines should require a mix of both active and passive spaces.

Based on the standards from other regional municipalities, it is recommended that a site plan standard for landscape regulations allocate sixty percent (60%) of the landscaped area to be used for passive and/or active recreation. The remaining, up to forty percent (40%), of the landscaped area will be used to fulfill other landscaping requirements such as streetscape landscaping, roadway buffer



landscaping, parking lot landscaping and site perimeter landscaping.

## FUTURE IMPROVEMENTS FOR PARKS, RECREATION, AND TRAILS

### **Athletic Facilities**

A significant finding from the existing parks analysis is the lack of athletic fields within the Town. With local participation in baseball and soccer youth leagues growing, suitable facilities are not keeping up with demand. Youth baseball and softball leagues must share their field with Bennett High School. The youth soccer league holds games and practices at Trupp Park but the only field large enough for U10 age group matches is located in a drainage basin, making the field unusable after inclement weather. Participation rates in these leagues are increasing and as the Town seeks opportunities to accommodate demand with suitable facilities in future parks it can look to the park classifications outlined in the 2009 Parks, Trails and Open Space plan.

#### Neighborhood Park Proposed Play Facilities and Land Requirements

- Soccer Fields: 2 acres per field
- Sports Fields: 2 to 5 acres per field
- Football Fields: 2 acres per field
- Running Track: 5 acres
- Basketball Courts: 10,000 sq. ft.

#### Community Park Proposed Play Facilities and Land Requirements

- Lighted Adult Softball Complex: 15 acres (depending on the number of fields)
- Lighted Youth Baseball Complex: 8 to 10 acres (depending on the number of fields)
- Football Fields: 2 acres per field
- Outdoor Basketball Courts: 1 to 2 acres
- Volleyball: 2 to 4 acres
- Lighted Tennis Complex: 2 acres

Other considerations for future athletic facilities include:

- Clustering athletic fields for multiple age groups. Youth sports organizations operate leagues at multiple age groups and in many cases participants in different age groups may come from the same family.
- Storage for recreation equipment adjacent to facilities.

## Trail Facilities

Bennett is an active community and expanding trail access throughout the Town will support this active population, but the key to increasing walking and biking is creating a comfortable experience for those who choose these modes of transportation. Currently those traveling across town on foot or bike must cross busy streets with little supportive infrastructure. To create a safe and enjoyable experience for those who prefer to travel by modes other than car measures should be taken to highlight pedestrian and cyclist visibility. Potential improvements include:

- Prioritization of safety measures along the main town trail leading from King Soopers, through Brothers Four Park to the Bennett School District.
- The addition of High-Intensity Activated Crosswalk beacons at locations where trails cross state highways.
- Painting crosswalks at park intersections.
- Improvements along paths and at intersections that meet ADA requirements
- Addition of bicycle lanes along Washington Avenue and Lincoln Avenue.
- Consider adopting a Complete Streets policy to ensure that streets in future growth areas accommodate multi-modal transportation.

In addition to infrastructure that improves safety and visibility for pedestrians and cyclists, trail planning efforts should be supported by a strategic initiative to provide shelter from the sun through shade structures and shade trees.

## POSSIBLE AMENITIES FOR FUTURE PARKS, TRAILS, AND OPEN SPACE

The following images are a collection of design elements that could be utilized for future planning and design efforts.

### TRAILS



### SHADE STRUCTURE



### GATHERING PLACES & COUNCIL RING



### OUTDOOR CLASSROOM



### FARMER'S MARKETS



### COMMUNITY GARDENS



PICKLE BALL



INTERPRETIVE SIGNAGE



SPLASH PADS



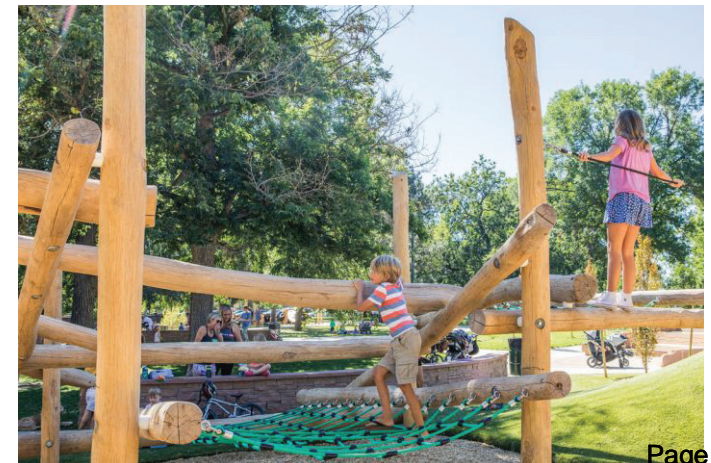
CLIMBING WALL



NATURE PLAY



NATURE PLAY



## CONCEPT FOR PUBLIC ART WITHIN BROTHERS FOUR PARK

Public art was identified as an idea for future park developments. Brothers Four Park is an ideal location for incorporating public art to enhance the experience of park and trail users.



## TRUPP PARK CONCEPT

To address several of the key issues noted in the analysis a conceptual rendering of future improvements to Trupp Park is included on the following page.



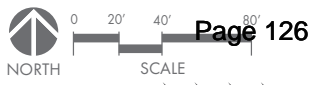
**LEGEND**

- A** U-10 SOCCER FIELD (120'x180')
- B** U-8 SOCCER FIELDS (75'x120')
- C** PAVED PARKING
- D** EXISTING SKATE PARK TO REMAIN
- E** EXISTING PUMP TRACK TO REMAIN
- F** BUTTERFLY GARDEN AND BENCHES
- G** TURF SEAT MOUND
- H** DENTENTION AREA
- I** ENHANCED LANDSCAPING
- J** FITNESS STATIONS WITH BENCHES
- K** SHADE STRUCTURE



**TOWN OF BENNETT | TRUPP PARK CONCEPTUAL MASTERPLAN**

BENNETT, CO | JUNE 2019



RECOMMENDED IMPROVEMENTS TO EXISTING PARKS

<b>BENNETT COMMUNITY CENTER</b>			
#	POTENTIAL IMPROVEMENT	COST	PRIORITY
1	The park is currently isolated from the rest of Town. Sidewalk improvements and trail connections to the park from the adjacent Centennial neighborhood as well as along Colfax Ave, should be explored.	\$\$\$	Long Term
2	The shade cover on the existing play structure is missing. Consider replacing the shade cover.	\$	Short Term
3	Consider adding landscaping enhancements and tree planting along the southern and western buffer area.	\$\$	Short Term
4	Install bike racks to encourage bicycle travel to the park.	\$	Short Term
<b>BROTHERS FOUR PARK</b>			
#	POTENTIAL IMPROVEMENT	COST	PRIORITY
1	The park's western entrance on Highway 79 is an important pedestrian connection. Consider infrastructure improvements to enhance pedestrian visibility and safety such as repainting the existing faded crosswalk and widening the path's entrance into the park.	\$\$\$	Long Term
2	Realign the sidewalk at the park's eastern entrance so that it connects with the sidewalk across Cherry Street via a crosswalk.	\$\$\$	Long Term
3	Create a gateway at the park's southern entrance including a crosswalk crossing Kiowa Street or Ash Street that will serve the growing neighborhood to the south.	\$\$\$	Long Term
4	The park's linear nature makes it an ideal place for including public art such as banners or other installations.	\$\$	Short Term

**Cost:**

\$ = \$5,000 or less  
 \$\$ = \$5,000 to \$15,000  
 \$\$\$ = \$15,000 or more

**Priority:**

Short Term = Within 5 years or less  
 Long Term = After 5 years or more

<b>BROTHERS FOUR PARK</b>			
#	POTENTIAL IMPROVEMENT	COST	PRIORITY
5	Existing benches and tables at gathering areas along the trail are in poor condition. Some are missing sections and are significantly rusted or the paint has faded Consider repairing or replacing.	\$\$	Short Term
6	Consider adding lighting fixtures along the trail to improve visibility.	\$\$\$	Long Term
7	Existing trees are growing into the path . Consider trimming trees to keep path free of obstructions.	\$	Short Term
8	Landscaping improvements to revegetate existing garden beds and new beds along the path, around the pavement, and at the southern entrance will enhance the park user experience.	\$\$\$	Long Term
9	Decorative railing is in poor condition and missing sections in some cases. Consider replacing.	\$\$	Short Term
10	Consider additional tree plantings or shade structures along the path and coordinate with bench locations.	\$\$	Long Term
11	Install bike racks to encourage bicycle travel to the park.	\$	Short Term
<b>CENTENNIAL PARK</b>			
#	POTENTIAL IMPROVEMENT	COST	PRIORITY
1	Consider adding light fixtures to extend the hours of use within the currently allotted park hours.	\$\$	Short Term
2	Existing garden beds are in poor condition due to drainage issues. Consider drainage improvements throughout the park.	\$	Short Term
3	Consider the addition of a small swing set that would serve users of all ages in the open area on the southern end of the park.	\$\$	Long Term
4	Install bike racks to encourage bicycle travel to the park.	\$	Short Term



<b>TRUPP PARK</b>			
#	POTENTIAL IMPROVEMENT	COST	PRIORITY
1	The large multi-use field lies in a drainage basin, making it difficult for grass to function as a playing surface for weekly soccer matches. Consider re-grading of the large multi-use field to make suitable for soccer matches.	\$\$\$	Long Term
2	The sidewalk along the park's southern boundary could use significant landscape enhancements including a double row of trees and benches. The railroad ties along the path are in poor condition and should either be removed or replaced. The path currently leads to an informal parking area along Palmer Avenue. Consider extending the path into the park for more convenient access.	\$\$\$	Long Term
3	Pedestrian connections to the park can be improved with the addition of a crosswalk across 1st Street connecting the park to the sidewalk along Palmer Avenue.	\$	Short Term
4	Consider filling in skate park pool and installing a bench and shade structure.	\$\$\$	Short Term
5	Landscaping improvements by the park's sign at the corner of 1st Street and Palmer Avenue will add visibility to the corner.	\$	Short Term
6	Consider landscaping enhancements and tree plantings throughout the park to provide shade.	\$\$	Short Term
7	Install bike racks by the playground to encourage bicycle travel to the park.	\$	Short Term





# Town of Bennett

## *Arts and Cultural Master Plan*

### 2019



welcome neighbors.

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# Introduction

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The Town of Bennett (Town) continually strives to ensure the quality of life for all its community members. In June 2006, the Board of Trustees adopted the following vision statement to reiterate their commitment to that goal: The Town Board of Trustees will proactively manage community needs to develop the Town of Bennett into one of the premier "rural town centers" of Colorado providing optimum levels of service to our citizens.

In 2018, the current Board of Trustees outlined a desire for greater arts and cultural access throughout the Town as a way of continuing to develop Bennett into that premier rural town center. The Bennett Arts Council was founded in April 2018 in order to fulfill the Board of Trustees' vision and to provide an avenue for arts and culture development in both Bennett and the surrounding unincorporated areas. The Arts Council is made up of Town staff and numerous community partners, including local artists and artisans, special districts, and non-profit organizations. The Bennett Arts Council's main purpose is to act as an advisory board and to increase awareness and access to arts and culture programming in Bennett and the neighboring communities.

The established mission statement for the Bennett Arts Council is to promote, connect, and empower arts and culture for all ages. It values sustainability, collaboration, innovation, and the transformative power of the arts.

As a way of fulfilling the above mission statement, the Bennett Arts Council was tasked with creating an arts and culture master plan for the Town of Bennett. A master plan is a comprehensive document that establishes and prioritizes long-term administrative goals to set parameters for government funding and development. The Town of Bennett Arts and Culture Master Plan was developed using community input from the Arts and Culture Community Survey, which was available for input from May to September 2019, as well as multiple public meetings and community partner inventory outreach, which were conducted from March to September 2019.

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Further recommendations and invaluable input were provided by Bennett Arts Council members who are leaders in the community and helped provide representation for a variety of voices throughout the area.

The Arts and Culture Master Plan is an important step in developing an arts and culture initiative that is sustainable and long-lasting. It includes the following items: 1. An acknowledgment of the people and organizations that contributed to the master planning process. 2. A discussion of the quality of life benefits associated with arts and culture and why it is important to invest in them. 3. An outline of the data collected to complete the master plan and how that information was incorporated into the document. 4. An analysis of both the Arts and Culture Community Survey results and the public input attained at public meetings. 5. An itemized inventory of current arts and culture organizations, venues, events, public art, and government policy throughout the Eastern I-70 Corridor. 6. A list of long-term arts and culture community goals and the strategies necessary to meet those goals.

It is the sincere hope of the Bennett Arts Council that this planning document meets the needs and desires of the Bennett community and encourages and creates greater access to arts and culture for all Bennett residents.



# Acknowledgements

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Thank you to the Bennett Arts Council community partners who not only helped develop the Town of Bennett Arts and Culture Master Plan but who also played an integral role in growing and sustaining the Arts Council itself.

Thank you to the Town Board of Trustees for their vision and desire to improve the quality of life of Bennett residents through the creation of an arts and culture initiative.

Thank you to all the organizations and community members that provided their time and knowledge to create a comprehensive arts and culture inventory.

Thank you to our business partners and generous sponsors. The work of the Bennett Arts Council would be impossible without you.

And finally, thank you to the residents of the Town of Bennett. This master plan and the work of the Bennett Arts Council are done solely for you. We cannot succeed without your input and support.

## **Bennett Arts Council Contributing Members:**

**Eric Zacharias**, Anythink Library

**Whitney Oakley**, Anythink Library

**Jamie Zerr-Lockwood**, Artist

**Becky Zierer**, Bennett Community Market

**Leila Schaub**, Bennett Park and Recreation District

**Melissa Klomp**, Bennett School District

**Sue Laing**, Bennett School District

**Nichole Harrell**, Communities that Care

**Robbin Schincke**, Morgan Community College

**Alison Digan**, Town of Bennett

**Taeler Houlberg**, Town of Bennett

**Trish Stiles**, Town Administrator



## Importance of Investing in Arts and Culture and the Impact on Quality of Life

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Arts and culture are part of the human experience. Examples of visual and performing art can be traced back thousands of years and have been used to move the story of humankind forward. Public art, artistic programming, and cultural events are all tools that can be used to emotionally connect people to the area where they live. They also contribute to the local economy through job creation and tax revenue. The following research examines just how important the impact of arts and culture is on a community's quality of life, as well as specific case studies from around the world that showcase how vital arts and culture are to building and sustaining community. It also provides the necessary validation for exactly why local governments should continue to support and fund arts initiatives in their respective municipalities.

Per research standards in the field, quality of life is measured through the examination of economic health and the development of social capital/place attachment in a given area.

### **Impact of arts and culture on quality of life:**

In 2018, Americans for the Arts performed an in depth examination into the impact of the arts on community economic health and found that the contribution of arts in an area is substantial. The study's researchers collected detailed expenditure and attendance data in 2015 from 14,439 arts and culture organizations and 212,691 attendees in order to measure total industry spending. What they



found was that the nonprofit arts and culture industry created \$166.3 billion of economic activity in the United States and supported 4.6 million jobs. Arts and culture organizations alone put \$63.8 billion into the nation's economy and the peripheral spending by arts

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audiences contributed \$102.5 billion to local businesses. Overall, the study found that one of the most important impacts of arts organizations was the ability to keep the economic impact local. The arts community employs people locally, supports local business through the purchase of local goods, and makes communities more vibrant and attractive, which not only entices tourists to visit but also encourages participation by current residents (Americans for the Arts, 2018).

Findings in a 2015 report by the United States Bureau of Economic Analysis (2018) showed that economic impact was even more substantial than the Americans for the Arts analysis showed. It found that in the United States, arts and culture economic activity generated \$763.6 billion or 4.2 percent of gross domestic product. In Colorado alone, the arts and culture sector contributed over \$13.7 billion to the economy, created 100,631 jobs, and paid \$7 billion in wages.

Furthermore, research by Wojan and Nichols (2018) found that support of a creative milieu in a rural context was paired with faster rates of employment, population growth, and business formation. The authors emphasized “that the arts are a cultural complement to human capital that facilitates innovative thinking” and ultimately leads to a stronger, more dynamic economy. Similar social outcomes were examined by Stern & Seifert (2010), who found that areas that emphasized arts and culture were associated with higher production levels via innovation and creativity, and that revitalization occurred through both an actual increase in commerce and through the social role that arts played. Cultural clusters exhibited a decrease in poverty rates and an increase in home values.

Likewise, research by Kay (2000) and Stern & Seifert (2010) examined the relationship between the arts and quality of life and found that they positively impact a community both economically and socially. The arts not only encouraged innovation, economic growth, and increased productivity but they were also a tool for empowerment and social engagement.

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Presence of the arts in community development encouraged an increase in civic engagement, volunteerism, participation in a social network, and the development of social capital via cultural identity and overcoming boundaries between groups.

**Effectiveness of arts and culture policies and funding initiatives:**



Similar to the research conducted on the impact of arts and culture on quality of life, a large part of the research that examines the effectiveness of arts and culture policies and funding initiatives is centered on how those policies and initiatives impact a community economically and socially. The case studies mentioned in the following paragraphs highlight many governmental policy initiatives that were designed and instituted to specifically impact quality of life.

Many of the case studies focused on economic policy initiatives in order to leverage the arts to revitalize an underutilized area. In New Haven, Connecticut, the city realized that the area's creative industries had no place to develop or grow, so the municipality instituted the policy "Project Storefront," which was designed to fill empty retail spaces with art galleries, studios, and arts and non-profit related offices. The outcomes associated with the initiative were highly positive. Consumers were once again interested in visiting an underutilized area, artists and entrepreneurial businesses felt supported by their community, and in the first year alone four new businesses were created (National Endowment for the Arts, 2016).

Dubuque, Iowa, created a similar economic development policy that was aimed at revitalizing an underserved area. The City Council created the Historic Millwork District Master Plan that prioritized the revitalization of vacant spaces by creating an arts district that would support the creative industries in the area. Ultimately, the initiative prompted an increase in cultural events and encouraged the relocation of non-profit organizations to the area. In all, the

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city estimates the economic impact of the project to be \$47.2 million annually (National Endowment of the Arts, 2016).

Unlike the case studies mentioned above, the Arts Awareness Intervention policy in Ireland was an economic development policy that focused on decreasing poverty rather than area revitalization through building and infrastructure investment. As part of the policy, the government's Department of Arts, Culture, and Gaeltacht attempted to combat poverty and encourage labor regeneration by investing in arts programming. Participants in the program experienced income regeneration as well as a desire for arts education and training, increased feelings of self-expression and working hard, and an increased sense of community (Kay, 200). Though the motivation behind the government's policy was economic development, an unexpected outcome of the program was participants' increased sense of self and community, which showed the potential for the arts to be not only an economic driver but a social driver as well.

The aforementioned case studies have shown the impact that economic development arts policies can have on an area, but not all municipal arts and culture policies are motivated by economic output. Many of them are motivated by the desire to increase a community's social capital. A case study conducted by Bailey, Miles & Stark (2004) in North East England looked at the impact of culture-led regeneration in Newcastle, Gateshead Quayside. The policy implemented in this case study centered on a systematic increase in funding and the creation of a Local Arts Development Agency that supported individual artists and new productions. Though new capital development facilities were created and the neighborhood experienced revitalization efforts, the research from the case study emphasized the positive communal impacts from the policy. Community members showed more enthusiasm toward the arts and attendance to various arts activities increased from 12-20 percent, depending on the event. The study concluded that culture-led regeneration was most successful because it focused on

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cultural identity and the cultural imperative of the arts rather than economic development.

Similar to the policy in North East England, the government of Chattanooga, Tennessee, developed an arts and culture policy that focused on culture-led community development over economic development. In a neighborhood of the city known for its unemployment and poor storm water management system, the city decided to develop a 1.72-acre parcel into an arts-centered community park. City officials reported that the policy accomplished its purpose and the area has become a main gathering place for residents. They also reported that, unexpectedly, the neighborhoods surrounding the park have seen revitalization efforts despite economic development not being a goal of the project.

In Columbus, Ohio, an arts initiative was developed with the explicit goal to create cultural understanding and an increased sense of community. The Guernica Peace Mural Project included American and Somali participants who were tasked with the creation and implementation of an artistic mural wall. Outcomes from the case study showed an increased understanding of one another's culture, genuine development of non-hierarchical relationships, and solidified community connections (Lee, 2013).

As shown in the research above, arts and culture improve a community's quality of life in a substantial way. They have the ability to increase and sustain economic health and vitality, foster community trust, and connect people to the place where they live. Simply put, they bring an inherent positivity to a community that is difficult to mimic with any other initiative. These immediate and substantial improvements to quality of life are the precise reason why arts and culture initiatives are worth investing in, not only with time and attendance but with fiscal backing as well. Local governments have a responsibility to support and improve quality of life in their community and by actively encouraging arts and culture initiatives, municipalities have the ability to fulfill that responsibility and develop a strong and lively community where all community members are incorporated and welcomed.

# Data Collection

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All the information gathered for this master plan was acquired through an intensive community engagement process that spanned seven months. The data collected can be divided into three main categories associated with the way in which it was attained. The three categories are community survey, community outreach, and Bennett Arts Council member input. Below is a detailed description of each category that includes why the category is significant, the data collection process associated with each item, and how that collected data impacted the overall master plan.

## Community Survey

At the start of the planning process, the Bennett Arts Council understood that a community survey would be necessary to create a document that was fully representative of the community's needs and desires for arts and culture in the Town. In May 2019, a fifteen-question survey on Google Forms was created for the purpose of attaining public input on the value of arts and culture to the community, support for specific arts and culture programming, interest in public art, and how the Bennett Arts Council could improve overall.

Once the survey was constructed, it was dispersed to the public, and residents were notified of the survey through various avenues of communication in order to receive as many responses as possible. A synopsis of the purpose of the survey and a link to the Google Form were included in the Town's eNewsletter, posted on the Town's website and social media pages, distributed via direct communication, and handed out in hard copy form at public meetings and Bennett Days. In total, the Bennett Arts Council received 69 responses to the Arts and Culture Community Survey.

Town staff efforts were focused on attaining surveys that were representative of Bennett's overall demographic (e.g. gender, race, age, and income). Gathering survey responses at Bennett Days was particularly important in guaranteeing that all demographics were represented in the survey results. Bennett Days is the Town's yearly festival that attracts

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2500-3000 visitors. It is free to the public and open to all people, which provided an opportunity for the Bennett Arts Council to attain survey feedback from a wide variety of residents from all demographic groups.



Outside of Bennett Days, a variety of demographic groups were reached in one of two ways. The first was by leveraging the Bennett Arts Council members' social and community networks. Members were sent a copy of the survey link by email and were asked to distribute the online link or physical

copies of the survey to community members they came in contact with. On a daily basis, Arts Council members encounter and work with residents from a variety of groups spanning age, gender, income, and race. By having them disburse copies of the survey to residents, staff was able to diversify the base of survey respondents and ensure that the survey results represented the Bennett population appropriately.

The second way a diverse demographic group was reached was via hand-delivered surveys to a social group called "Silver Sneakers," who are predominantly aged adults both male and female. The surveys were handed out by the Director of the Bennett Parks and Recreation District and participants of the Silver Sneakers class were invited to fill out the paper survey.

From May to September 2019, an ongoing analysis of the survey responses took place. Final submittal for survey input was on September 7th at Bennett Days. All surveys that were done via paper were manually input into the online result database and incorporated into the final survey results. The compiled results were used in the formulation and prioritization of the specific community arts and culture goals listed in this master plan. An analysis of the survey is included below under the heading "Survey and Public Meeting Analysis."

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## **Community Outreach**

The community outreach process was comprised of two distinct components: community engagement and inventory outreach. The avenues for community engagement were varied and extensive and included a public Bennett Arts Council meeting, a public meeting at the Bennett Recreation District, a Business Advisory Group meeting, and a review of the draft master plan and community goals at a Board Meeting for the Town Board of Trustees. The data collection process for the Eastern I-70 Corridor Arts and Culture Inventory was strategic and intensive so as comprehensive and accurate an inventory as possible could be created in order to fully understand all of the current resources available for arts and culture. Town staff performed extensive community outreach to collect information on arts and culture venues, organizations, events, public art, and policy, so that data could be compiled into this master plan and used as a reference in the formulation of the Community Arts and Cultural Goals and also for residents' personal use.

### *Community Engagement*

Community engagement was an important part of the master planning process and public meetings were held specifically for the purpose of attaining important community input on arts and culture growth in Bennett. Residents and Bennett businesses owners were encouraged to participate in four public meetings in order to provide their opinion on arts and culture growth and planning in the community. The public meetings took place in four different settings. The first was at an official meeting of the Bennett Arts Council, which took place on August 20th, 2019. The second was at a regularly scheduled Silver Sneakers class on August 26th, 2019, at the Bennett Parks and Recreation District. The third was at the Business Advisory Group (BAG) meeting on September 23rd, 2019. The fourth was on September 24th, 2019, at a Board Meeting for the Town of Bennett Board of Trustees.

The Bennett Arts Council meeting on August 20th, 2019, was publicized as a public



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meeting using the Town’s publication standards. This included publication for the meeting on Bennett’s social media platforms including Facebook and Twitter, and adding information about the meeting to the Town website. The Arts Council meeting was held in the “Community Room” at Town Hall and residents were invited to come to the meeting in order to provide feedback on the draft plan goals and steps to implementation. A time was set aside on the meeting’s agenda for public comment. The meeting was also used as a platform for receiving feedback on the master plan goals and steps to implementation from the Bennett Arts Council members. Meeting minutes from August 20th are included in this master plan as Appendix C.

The second public meeting took place on August 26th, 2019, at the Bennett Park Recreation District at the beginning of a Silver Sneakers class, which is a standard class included on the class calendar. As mentioned above, surveys had been dispersed to members of the Silver Sneakers group, staff met with them in order to gather more in-depth feedback about the arts and culture initiative overall. Talking points from the meeting can be found in the analysis portion of this master plan. Though this meeting was informal, it was particularly important because it ensured that the senior demographic of the Town was being heard and that their ideas and opinions were incorporated into future planning.

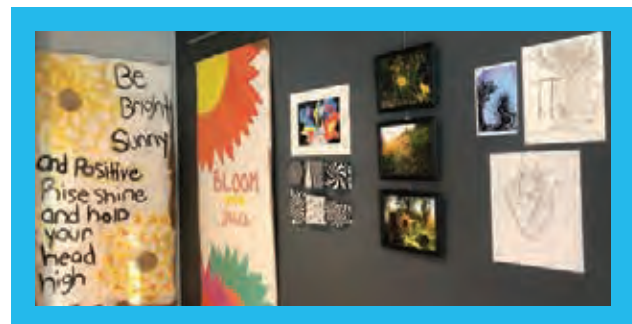
The third public meeting took place at the Business Advisory Group (BAG) meeting on September 23rd, 2019. The BAG is a Town-sanctioned advisory group that consists of Bennett business owners who advise and make recommendations to the Town on matters related to business and economic development in the area. In order to receive feedback, the arts and culture master plan goals and timeline were provided to the group and members were asked to give their opinion and feedback on the draft plan as they related to economic growth and business development. As mentioned in the “Importance of Investing in Arts and Culture and the Impact on Quality of Life” section of this master plan, the creative industries can have a major impact on a community’s economy. Consequently, it was very important to receive

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feedback from Bennett’s businesses on arts and culture growth for the area to ensure that it aligned with the area’s economic goals. Their comments were incorporated into the master plan goals and can be found under the analysis portion of the master plan. The fourth public meeting took place on September 24th, 2019, at the regularly scheduled Board Meeting for the Town of Bennett Board of Trustees. Prior to this meeting taking place, the master plan draft was added to the virtual meeting agenda that was publicized using standard public meeting notices. At the meeting, Bennett’s elected officials were asked to provide feedback on the community arts and culture goals, steps to implementation, and implementation timeline. Their feedback is included in the “Survey and Public Meeting Analysis” section. The necessity behind receiving feedback from the Town’s elected Board of Trustees was critical. They represent the Town as a whole and guide the community’s policy initiatives. Without their support, the area’s arts and culture goals would be irrelevant.

### *Inventory Outreach*

The second element of community outreach was associated with gathering data for the Eastern I-70 Corridor Arts and Culture Inventory and was a primary focus since the beginning of the master plan development



process. Having a comprehensive inventory provides residents with the resources they need to access arts and culture throughout Bennett and the surrounding communities. It also allowed the Arts Council to see an overall picture of what arts and culture resources were already available so that when the community goals and long-term planning were developed, those goals were not redundant or overstepping with arts and culture efforts already in place. Lastly, gathering information for the inventory provided an avenue for Town staff to reach the widest array of people and organizations that represent the area’s varied demographics. Organizations

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in the inventory serve individuals from numerous backgrounds including children, teens, seniors, genders, income levels, and racial minorities.

Data for the inventory was collected through three methods: in-person interviews, digital communication, and non-contact research. Each category is described in more detail below.

The in-person interviews were conducted in order to develop a comprehensive inventory as well as solidify community relationships. Interviews were held between staff and various organization leaders to discuss the history of the inventory item to which they were associated, what demographic groups that organization served, and how the organization's work related to the overall arts and culture activities in the Eastern I-70 Corridor. On average, interviews lasted an hour and information from the in-person interviews was compiled via hand-written notes or voice recordings. That information was then analyzed for relevance to the specific purpose and incorporated into the comprehensive Eastern I-70 Corridor Arts and Culture Inventory.

Email communication was the second method of data collection for the arts and culture inventory. Due to time constraints and scheduling conflicts, it was impossible for staff to meet with all inventory representatives via the interview process. For this reason, email communication became the vehicle for gathering information on some inventory items. Individuals speaking on behalf of a specific topic in the inventory were sent a list of questions pertinent to their organizations or event and asked to respond as accurately as possible. Once staff had received the answers to the list of questions, the information was compiled and added to the comprehensive inventory.

The last method of data collection for the inventory was non-contact research. As with any information collection effort, internet search engines became a powerful tool for gathering data. Research was gathered almost exclusively from the website associated with the specific

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inventory item. It is important to note that like many rural communities, Bennett and the surrounding unincorporated areas often deal with an information lag associated with limited organizational resources. Information found on websites was not always comprehensive or complete. For this reason, once an inventory write-up was compiled, it was sent to the organization’s representative for approval and further comment. After approval was received and the write-up was updated with recommendations from the organization, the item was then added to the comprehensive inventory.

The Eastern I-70 Corridor Arts and Culture inventory is a crucial piece of the master plan because the Arts Council could not have built comprehensive future goals for the community without first understanding fully what was already happening with arts and culture in the area. In a rural community, resources are incredibly limited and it is very important that efforts are not duplicated. By having the inventory, the Arts Council could move forward with goals that were appropriate to the context of the community.

### **Bennett Arts Council Input**

Bennett Arts Council members include representatives from Anythink Library, Bennett Community Market, Bennett Parks and Recreation District, Bennett School District, Communities that Care, Morgan Community College, and local artists. They represent many different demographics in the community, which made their input particularly valuable to the draft master planning process.



Special districts like the Bennett Parks and Recreation and Anythink Library are highly representative of the area’s population because they serve children, adults, seniors, men, and

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women through their programming and offer services to families and individuals from all income levels. The Bennett Parks and Recreation District also provides a particularly strong connection to the Town's senior population. Representatives from Bennett School District highlight the Town's youth voice as well as having cross-sections with the community's minority populations, while representatives from Communities that Care and Morgan Community College further accentuate the student voice but also add the adult voice which is the Town's majority population. Other Bennett Arts Council members represent the surrounding agriculture community and local artists groups.

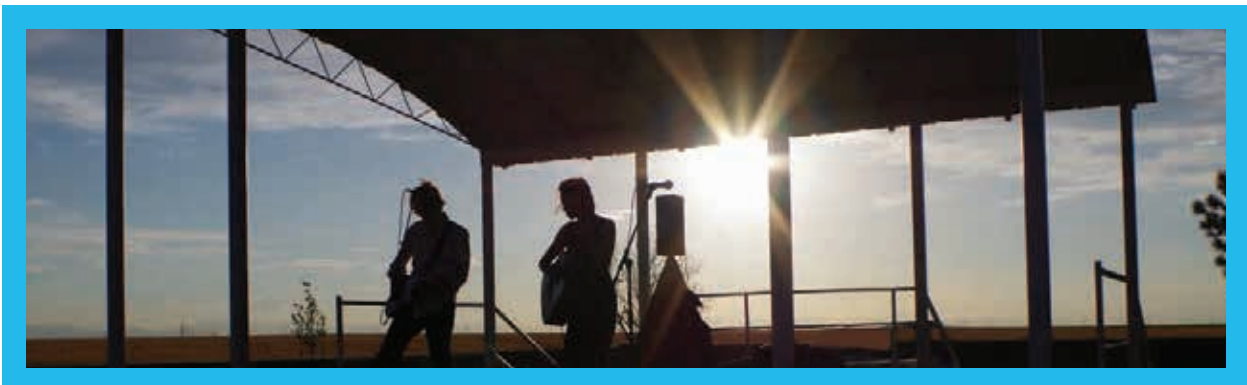
Feedback from the members of the Bennett Arts Council was integral to the formulation and completion of the overall Arts and Culture Master Plan. During the planning process, members were briefed on the collected community input data and asked to provide feedback on areas of improvement, community goals, public art, current programming, inventory topics, etc. Two such input meetings took place on June 25th, 2019, and August 20th, 2019.

During the June 25th meeting, the Arts Council was given the preliminary survey results and asked to provide input on what areas were most important to focus on. It was at this time that the group suggested the four goal areas: inclusion, outreach, access, and education. These area goals continued to fall in-line with additional community feedback and were later formulated into longer more comprehensive goals and steps to implementation by Town of Bennett staff. After the goal formulation was complete, the comprehensive goals and steps to implementation were reviewed by Bennett Arts Council members on August 20th. Each of the goals and steps to implementation were read aloud in the public meeting and the advice and feedback given by members was incorporated into the master plan goals.

Overall, the role of Bennett Arts Council members was one of collaboration and guidance. They brought the objectives, input, and priorities from their own organizations/businesses to the table to help build a more effective and representative

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document. As the master plan developed, they aided in the clarification of various segments and helped ensure that information was articulated in a way that was appropriate to the context. Lastly, they acted as advocates for both the arts and residents, and helped formulate future arts and culture goals that encompassed the voices of numerous community groups throughout Bennett and the surrounding unincorporated areas.

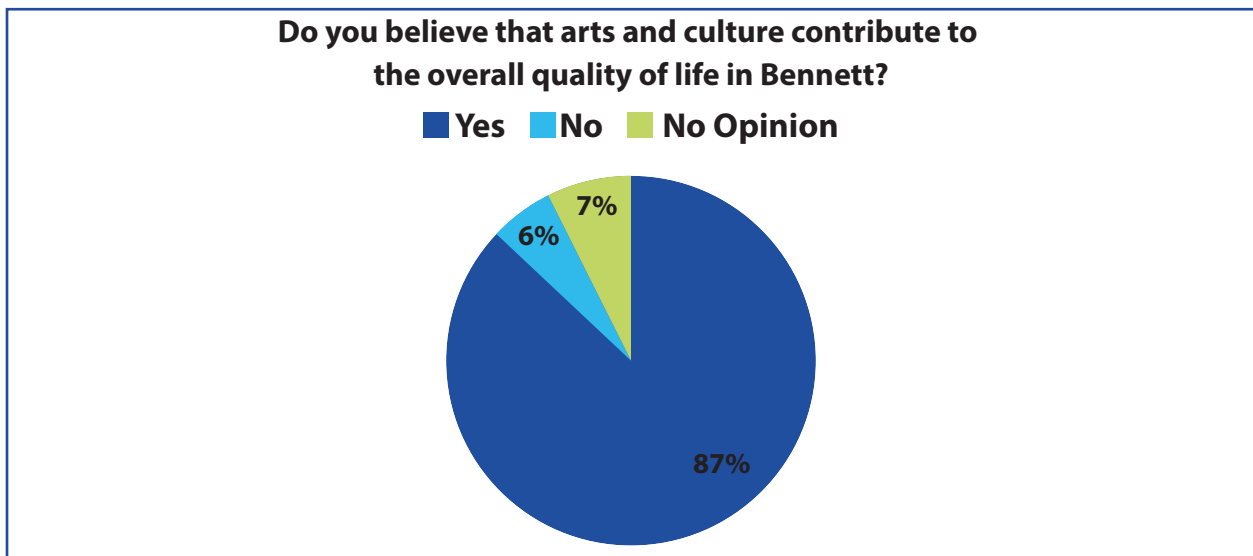


# Survey and Public Meeting Analysis

The following pages offer an analysis of the Arts and Culture Community Survey as well as an analysis of the public input attained at the public meetings for this master plan. The reason for the analysis is to clearly show how the public input gathered throughout the master planning process was ultimately shaped into the master plan arts and culture goals, which are listed under the heading “Community Arts and Culture Goals: Inclusion, Outreach, Access, Education.”

## Survey Analysis

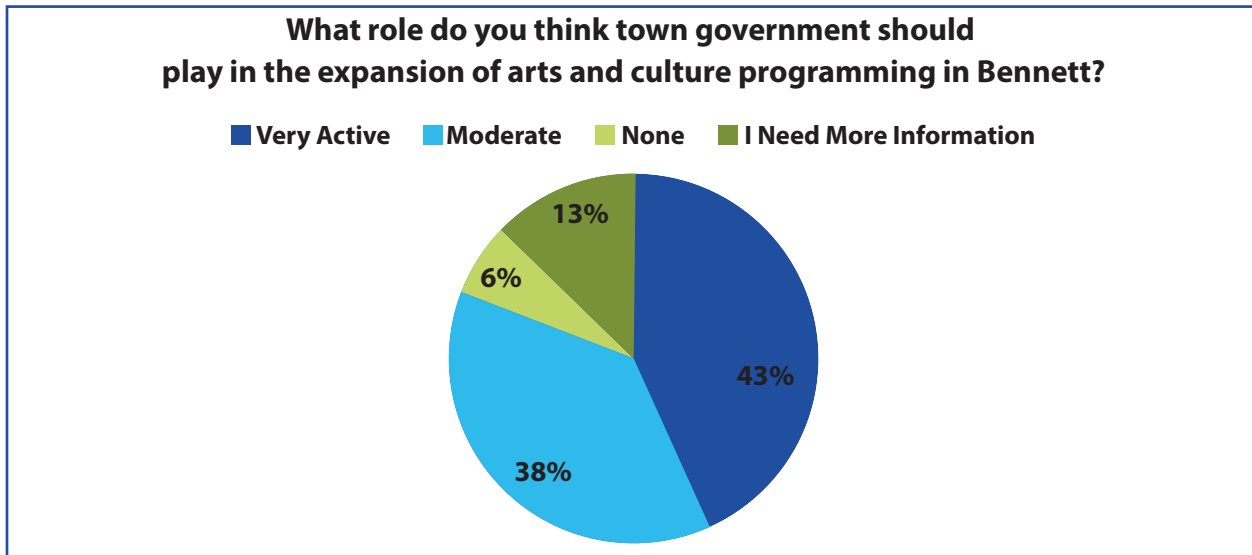
Through the Arts and Culture Community Survey, area residents expressed definitive support for arts and culture. Of those surveyed, 87 percent said that they believed that arts and culture contributed to quality of life in Bennett and a combined 90 percent said that having arts and culture offerings in the Town was either “very important” or “somewhat important” to them.



The survey also showcased residents’ belief that the Town government should play a role in bringing arts and culture to the community with 43 percent responding that government should play a “very active” role and 38 percent responding that it should play a “moderate” role. These numbers are important because they showcase the alignment between public opinion and the overall goals of Bennett’s Board of Trustees in supporting quality of life

by starting an arts and culture initiative.

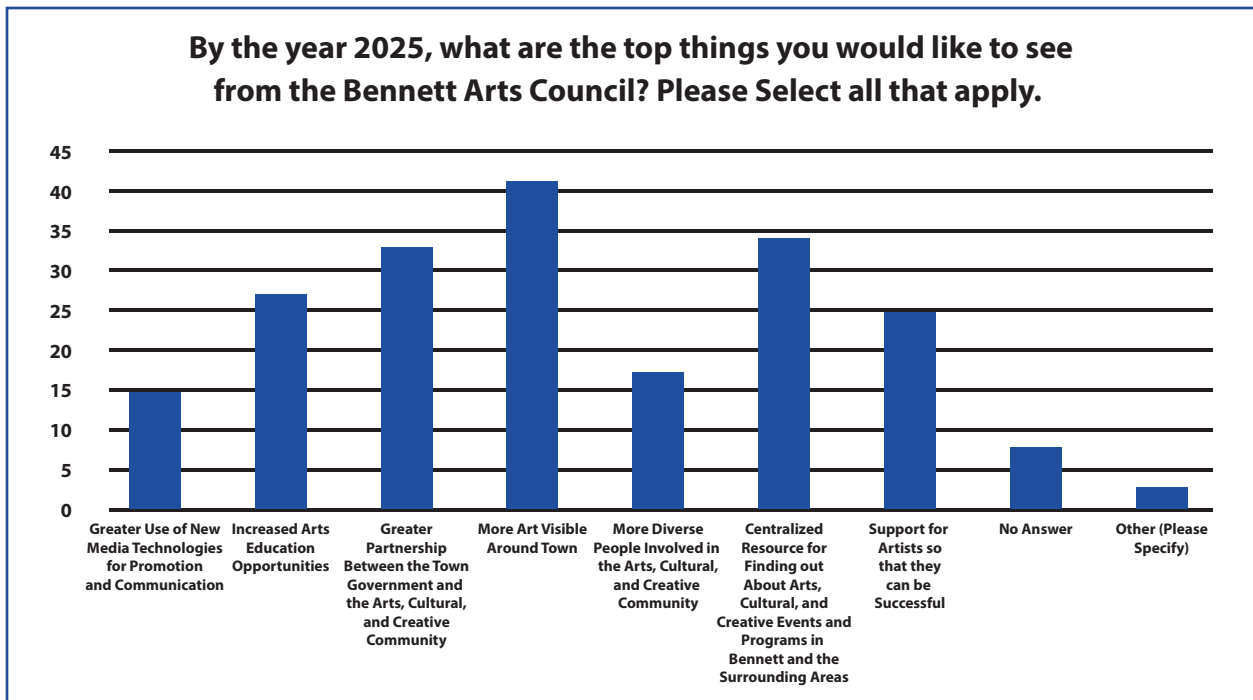
Having established that the majority of residents support arts and culture development



in the area, the survey was then analyzed to determine the community’s arts and culture needs and wants so that long-term goals could be established for the master plan. From the analysis, four key categories were identified as focal points for the next three years of growth. The categories are: inclusion, outreach, access, and education.

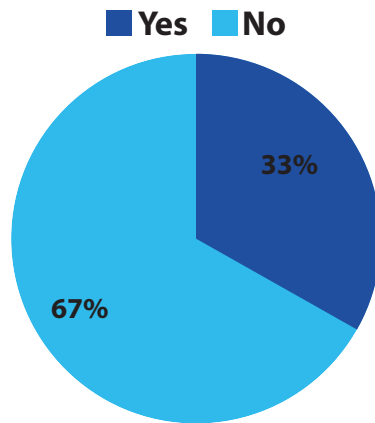
Inclusion was inspired by a reoccurring theme in the survey that stressed the importance of expanding community partnerships and leveraging the resources already in the area. When asked what they would like to see from the Bennett Arts Council over the coming years, one of the top three responses was “greater partnership between the town government and the arts, cultural, and creative community.” A desire to see more diverse people and programming as part of the arts initiative was also identified, and included suggestions of organizations and individuals who could be potential partners. Inclusion focused on broadening representation within the Bennett Arts Council and expanding community partnerships in order to provide additional resources and support for the arts and culture initiative.



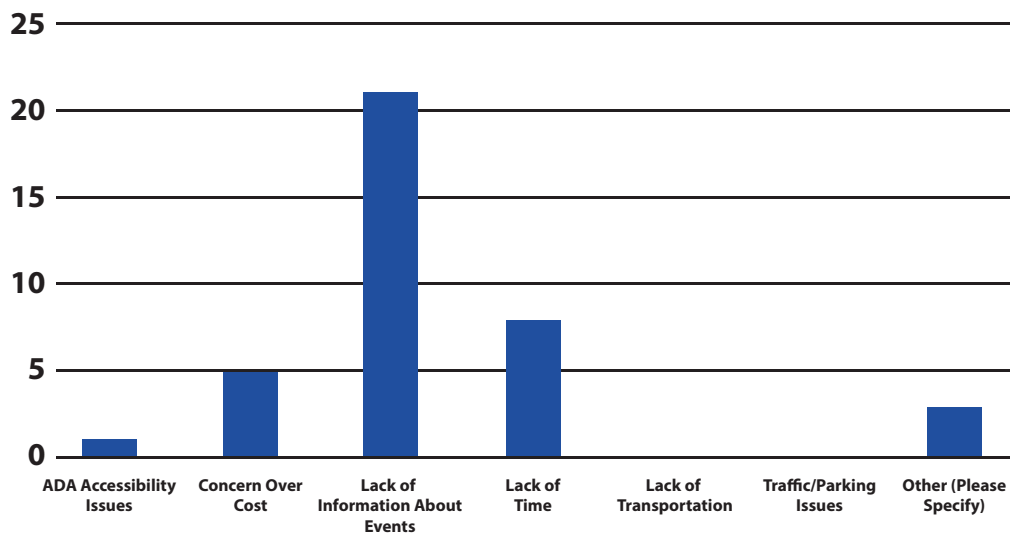


Outreach became an important goal because one of the greatest concerns that came out of the survey was lack of knowledge about arts and culture resources and events in the Bennett. Of those who said there were issues preventing them from attending more events, the most cited reason was “lack of information about events.” Respondents also identified “greater publicity” as one of the most important ways in which the Bennett Arts Council could improve access to arts and culture. Outreach concentrates on improving informational access for all aspects of arts and culture in the area. One of the ways this can be achieved is through a centralized online information resource database which ranked second for what respondents want to see as a long-term goal for the Arts Council. Surveyed individuals also identified the best ways to receive information about arts, culture, and special events, which will allow the Bennett Arts Council to highlight successful lines of communication and improve in other marketing areas.

**Are there issues that prevent you from attending more arts and cultural events in Bennett?**

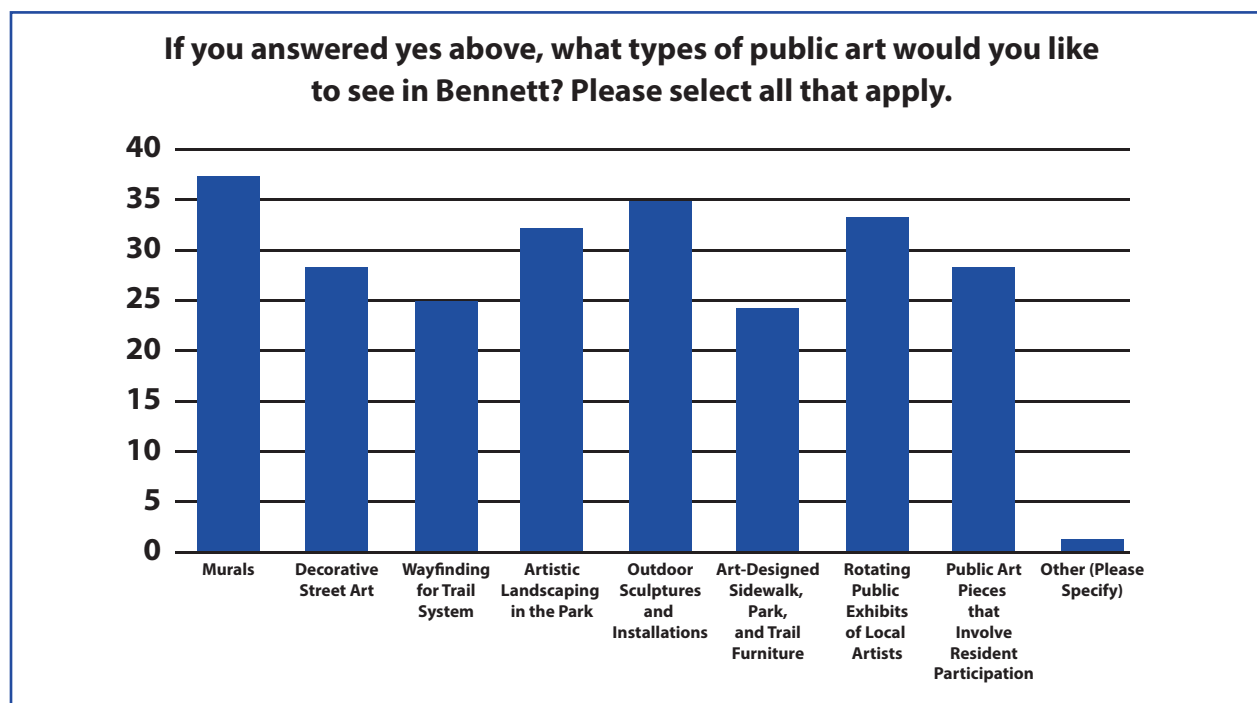
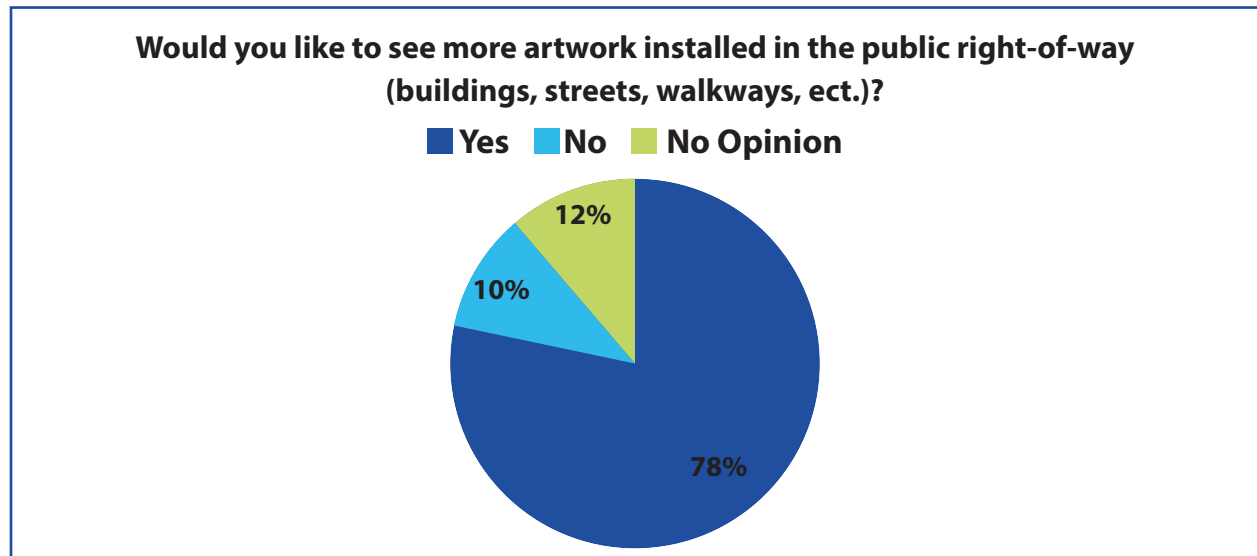


**If you answered yes above, please let us know why.**

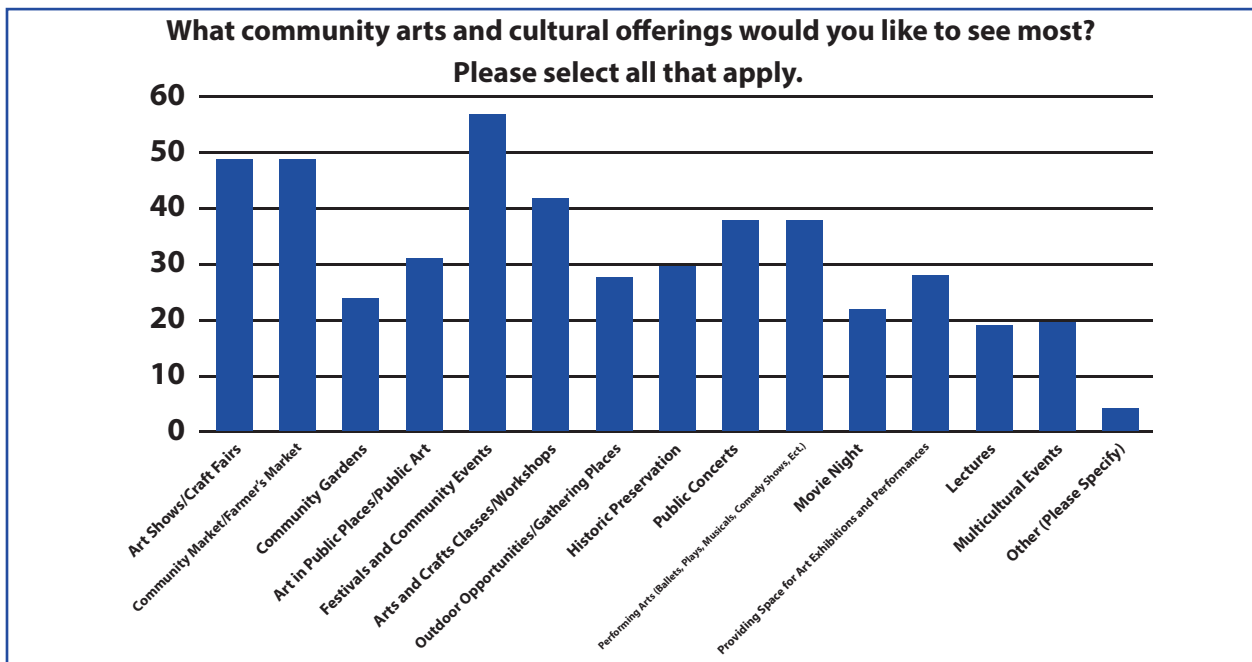


Providing access to arts and culture events has been the driving force behind the Bennett Arts Council. By including the Access category as a community goal, staff can work to develop access to additional types of art that are not as prominent in the area. The first type of art highlighted in the Access category is public art. This was included in the community goals because of the specific support from residents for the expansion of public art in the

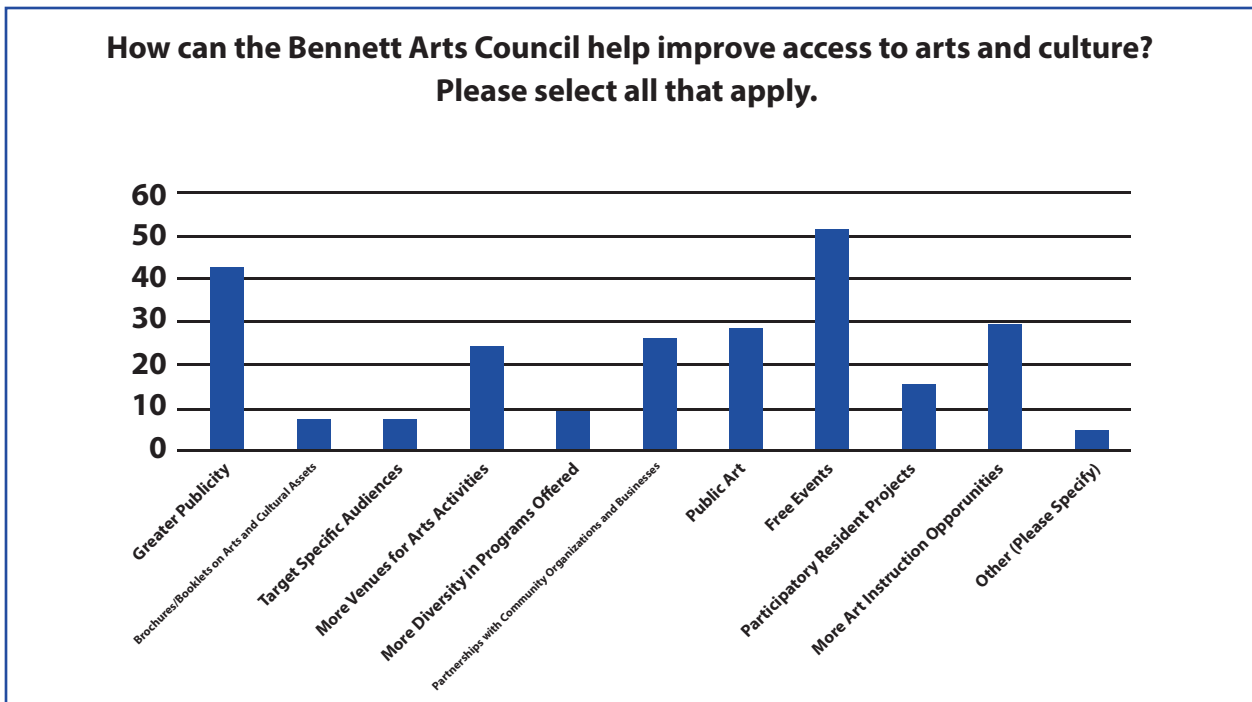
community. Seventy-eight percent of those surveyed expressed a desire to see more artwork installed in the public right-of-way and “more art visible around town” was the highest ranked item for what residents want to see by 2025. Murals, outdoor sculptures, artistic landscaping, and rotating art exhibits were all listed as priorities for what respondents wanted to see most.



The second type of art highlighted in the Access category is associated with yearly programming. The 2018 and 2019 Bennett Arts Council calendars included many of the offerings that survey respondents wanted to see like art shows, community markets, arts classes, historic preservation, and public concerts. However, there is always room for improvement and section “b” of the Access community goal emphasizes ways in which Bennett Arts Council programming can expand. Performing arts and community events/festivals were two specifically targeted goals for increased access because of survey responses that identified both items as a high priority.



The key way that area residents felt the Bennett Arts Council could improve access was to continue to have free events. For this reason, it is important that future events and programming remain free to allow for the continued development of art in the community. Obtaining Scientific and Cultural Facilities District funding in 2023 is crucial to the continued success of the Bennett Arts Council because it will provide an avenue for funding, thus allowing events to continue to be free. Part “c” of the Access category was established so that staff is prepared to apply for SCFD funding eligibility when the five-year moratorium is complete.



Supporting and encouraging arts and culture education was another major theme throughout the survey and led to the creation of the Education community goal. “Arts and crafts classes/workshops” was the fourth highest ranked cultural offering that respondents wanted to see most and “more art instruction opportunities” was the third highest ranked item to help improve access to arts and culture. Respondents also identified “increased arts education opportunities” as one of their top priorities for long-term planning. For this reason, the Education goal was developed to increase access to educational opportunities and provide a support system for local artist.

Pie charts and column charts have been included in this document as Appendix B for additional information on survey responses.

**Public Meeting Input**

*Bennett Arts Council Meeting: August 20th, 2019*

The main purpose of the Bennett Arts Council meeting on August 20th, 2019, was to review and acquire feedback on the draft master plan arts and culture goals and the steps to

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implementation associated with those goals. It was the first public meeting held by the Arts Council and a public comment section was included on the agenda. No public attended the meeting other than the residents who are also Bennett Arts Council members. A full list of those in attendance can be found in Appendix C of this document. The Town Board of Trustees had also been notified of the public meeting during their Board Meeting on August 13th, 2019. Though unable to attend, a Trustee did offer his opinion for the coming meeting and informed staff that he would like to see more performing arts included as part of the arts programming, especially Ballet. He also said he would continue to support and help where he could.

Town staff moderated the meeting, and the review process for the draft master plan goals and steps to implementation was done by reading each item completely and then asking for input from the Arts Council members.

Inclusion centers on ensuring that all demographics in Bennett are included in the Bennett's art initiative. An open call for additional Arts Council members was discussed as a way to fulfill this goal. Applications would be made available to potential candidates at Bennett Days and possibly through the Town's water bill announcement. The size of the Arts Council was discussed and the idea of a twelve-member arts council was brought up. It is important to provide enough space for all key voices but to be leery of the group getting so big that no one can be heard. It was during the Inclusion discussion that staff were invited to attend a Silver Sneakers meeting to gather additional feedback on arts and culture in the area from the participating residents. Notes from the Silver Sneakers meeting can be found below as part of the next subheading.

In the "Community Arts and Culture Goals: Inclusion, Outreach, Access, Education" section of this master plan, each outlined goal also has an accompanying "steps to implementation" portion that describes how each goal will be accomplished. The steps to implementation for Inclusion involve ways in which the Bennett Arts Council can encourage

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more participation from underrepresented demographics. Members were read the steps for implementation and had no further comment on the items listed.

Outreach is associated with providing greater communication for arts and culture programming. No comment was made by Arts Council members on this goal.

The steps to implementation for Outreach revolve around ways in which outward communication can be developed so that more residents know about the culture happenings in their community. The comments associated with these steps were logistically based and involved inquiries about the Bennett Arts Council’s presence at Bennett Days and whether the Town would be acquiring an electronic board.

Access focuses on increasing contact between art and residents throughout the community. The entire goal was read and Arts Council members had no comment on the goal.

The steps to implementation for Access were designed to help increase access to all facets of art in the community and are multifaceted including instructions for securing a stable funding mechanism for the Arts Council, increasing public art, and providing more opportunities for a wider variety of arts and culture activities. During this portion of the meeting, an important conversation took shape that asked the question: Should a Public Art Committee be established to oversee and recommend the design and purchase of public art in Bennett? One member felt it would be good to have an art committee that could brainstorm ideas and determine costs of the public art. The majority, however, believed that public art committee felt redundant and that, for now, the Bennett Arts Council could fulfill that role and perform the tasks mentioned above. Another step for Access involves researching



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the potential of a Bennett arts center. A member commented that they liked that goal.

Education revolves around increasing access to educational opportunities. After the goal was read, a member expressed the reality that some of the goal had already been started. This included putting a list together of fiber artists in the area. No further comments were made about this goal.

Goal Four's steps to implementation aim to improve access to arts education. The first step initially discussed reaching out to educational and arts organizations in the area but an Arts Council member made the astute observation that the majority of those institutions were already in the room. Together it was determined that the educational goal should be focused more on maintaining current relationships and seeking out art instructors. Once that information was found and classes were established, members also agreed that classes should be included in an overall Arts Council calendar.

*Public Meeting: August 26th, 2019*

The public meeting that took place during the Silver Sneakers class on August 26th offered incredibly important feedback on Bennett's arts and culture initiative. The discussion opened with staff inquiring if the people present felt that it was important to have arts and culture offerings in Bennett. Answers to that question include yes, no, and "it depends." Some participants felt that it was important and others felt that it was acceptable but only if tax dollars were not used for the initiative. Town staff received a similar answer when those same residents were asked about their desire to see more artwork in the public right-of-ways. Participants spoke to the favorability of that idea as well as the idea that art should come second to other priorities in the Town.

When asked about ideas for public art, it was the moderate supporters who provided the most feedback. They discussed the potential for art to be used to rejuvenate Main Street, specifically mentioning putting a mural on the Roggen Elevator or old enlarged photos throughout the



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downtown area. Participants expressed a desire to seeing farming and agriculture featured in public art work and felt that it was important that there be some sort of oversight over what was purchased and installed.



Town staff also queried the Silver Sneakers group about what arts and culture offerings they would like to see most, to which they replied: films in the park, family friendly events, and plays. Upon hearing that all of the 2019 Bennett Arts Council events were paid for through sponsorship, an area resident mentioned the importance of adequate publicity for sponsors and that they be given ample recognition for their willingness to fund the yearly programming.

*Business Advisory Group Meeting: September 23rd, 2019*

Understanding that arts and culture can positively impact a community's economic well-being, it was important that the draft Community Arts and Culture Goals be presented to the Town's Business Advisory Group for review. Prior to the meeting on September 23rd, BAG members were sent a meeting agenda with the draft community goals and steps to implementation so they could read through them before meeting in-person.

At the meeting, the goals were reviewed one by one and BAG members were asked for their input on each. Meeting participants had no feedback for the goal Inclusion. After

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summarizing the goal Outreach, consensus was that outreach has always been difficult but that the community's businesses would be willing to help with communication by posting flyers at their locations or distributing information. Input on the goal Access, centered on public art. One member asked where new public art pieces would be displayed, to which he was informed that as of now, they would be in the public right-of-way. The conversation around public art then led to a discussion about how cleaning up the park and area around the railroad crossing in Bennett would be helpful. No feedback was given on the goal Education.

*Board of Trustees Board Meeting: September 24th, 2019*

The last public meeting took place at the regularly scheduled Town of Bennett Board of Trustees meeting on September 24th, 2019. A synopsis of the Arts and Culture Community Survey and previous public input was provided to the Board of Trustees as well as the draft Community Arts and Culture Goals and the timeline for implementation. Those items were published in the meeting agenda on Friday, September 20th, 2019, and Board members had the opportunity to review them before the meeting took place.

On the night of the meeting, staff gave an overview of the community survey and public input synopsis and then read the four community goals aloud to the Town's Trustees and asked for feedback after completing the reading. Members of the Town Board of Trustees had no additional feedback for staff on the community goals outside of the "outreach" goal. During that portion of feedback, it was commented that the majority of survey respondents said that social media was the best way to receive communications about arts and culture events and that we should research the intent behind social media platforms that we use to disperse information.

# Eastern I-70 Corridor Arts and Culture Inventory

After several months of research, in-person interviews, and data compilation, Town staff was able to create a comprehensive arts and culture inventory that showcases the arts and culture organizations and programming already present in the Eastern I-70 Corridor community. It was important that a comprehensive arts and culture inventory be compiled not only so that staff would have an overall picture of current arts and culture efforts for planning and goal making purposes, but also to provide a resource for residents in order to connect them with the organizations producing art and culture in the area.

The inventory below was compiled predominantly through in-person interviews and personal online communications, but also includes some non-contact research. It is featured in its entirety in the Bennett Arts and Culture Master Plan because of its importance in the master planning process, as well as its ability to be used as a tool to help residents find arts and culture venues, organizations, events, public amenities, and policy in Bennett and along the Eastern I-70 Corridor.

## **Eastern I-70 Corridor Organizations:**

### *Anythink Bennett*

Anythink is the public library system that serves the residents of Adams County, Colo., with seven libraries and a bookmobile. With a focus on innovation, Anythink's award-winning approach to library service is recognized by industry leaders and organizations across the globe. With an experience-based model, Anythink believes that creativity and play inspires lifelong learning. Anythink offers a wide variety of interactive programming for all ages and interests, as well as numerous resources available at the library and online. Programs are often presented in partnership with local experts in order to provide



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high-quality instruction for customers. As an organization focused on providing early literacy opportunities for children of all ages, Anythink is also a primary source for supporting the educational success of children and families in the Adams County community. The organization's current Strategic Plan outlines the library's work through 2022, the vision of which is to be a catalyst for innovation in the community. The Anythink Strategic Plan focuses on achieving this vision through work in three specific areas: community, culture, and career.

Anythink Bennett was the first of Anythink's branches to be remodeled under the new library brand in 2009. Located at 495 7th St., the library is at the heart of the Bennett community. The building is energy-efficient and designed with a Western style that reflects life on the Eastern Plains. The branch frequently partners with local artists, non-profits, and business industry leaders to provide learning opportunities on everything from entrepreneurship and robotics to textile arts and design. Anythink Bennett is managed by Whitney Oakley and operates as a community hub for residents in the area. For a complete list of upcoming programs at Anythink Bennett, visit [anythinklibraries.org](http://anythinklibraries.org) (Oakley & Zacharias, 2019).

#### *Arapahoe Libraries-Kelver Branch*

Arapahoe Library District started in 1966 and one of the first stops for the bookmobile was near where the Kelver Branch stands today in Byers, Colorado. The current library facility is located near the Byers School District and a large portion of the community that the branch serves are school children. The library also strives to serve everyone in the community including adults, teens, and seniors. Branch supervisor Joshua Mote reiterates, "We are a public library. Our job is to connect with the public and offer them services, and give them what they need." The Kelver branch offers programming, meeting space, access to internet, and entertainment. They also engage with businesses in the area like Aspen Grove, an assisted living facility in Byers, to do a "collection deposit" where books are rotated in and out of the facility monthly. The

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Kelver Branch actively strives to engage with the community to see where there is intersection. Current community involvement includes a presence with the Eastern I-70 Chamber of Commerce, Bennett Days, and the Bennett Community Market.

The Kelver Branch routinely offers arts and culture programming for its patrons. Past monthly adult programming includes creating a tea cup scene, arts and crafts, a Legendary Ladies of Denver lecture, historic programming, quilting, and an antique road show event. Art displays can also be found at the library. Programming for children includes story time, science and animal events, and literacy. One of the biggest events of the year for the Kelver Branch is the annual summer reading program that typically runs between June and July.

Recently, the Branch announced that it would be building a new facility which will increase its size as well as open opportunities for additional public gathering and programming. A list of all Kelver Branch events and programming can be found at [arapahoelibraries.org](http://arapahoelibraries.org) (Mote, 2019).

#### *Bennett Community Market*

In 2012, Becky Zierer of LaZyB Acres Alpacas approached the Town of Bennett about starting a farmer's market after realizing a desperate need for it along the Eastern I-70 Corridor. Many artists, artisans, and farmers in the area had nowhere to market or sell their goods, including Becky who wanted a venue where she could sell her alpaca products. After a successful meeting with the Town, a location for the market was established just north of the Historic Charles Muegge House in what would become the Civic Center complex. The Town's Board of Trustees approved a Temporary Use Permit and in June of 2013, the first Bennett Community Market opened for business with twenty-one vendors.

The Bennett Community Market averages 200 visitors and 20 vendors at each event date, with a core of six vendors consistently attending throughout its history. It's held primarily on a monthly basis with two additional weekends added in August and September to

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accommodate the abundant harvest goods. One of the weekends in September takes place at the Town’s annual celebration Bennett Days. Products sold at the market include vegetables, eggs, baked goods, jellies, picked veggies, candy, plants, Watkins products, books, sewn items, commercial products, wood crafting products, crochet products, clothing, yarn, and alpaca products. The Bennett Community Market has become an essential part of our community as a place where residents can gather to promote economic development and build camaraderie with their neighbors. It provides an opportunity to develop a new market in Bennett as well as a place to develop new friendships. Its influence continues to spread as people get to know one another, share stories, and can ultimately recommend or hire the vendors for other events. The market has opened up lines of communication between residents and businesses that were not there before.

It supports arts and culture in the area by offering artists, handcrafters, and farmers a chance to display and sell their goods to community members.

Additional information can be found at the Bennett Community Market Facebook page, the I-70 Scout Newspaper, and on local flyers (Zierer, 2019).

#### *Bennett Park and Recreation District*



The Bennett Park and Recreation District (BPRD) is a Special District that serves residents from East Aurora to Agate. As described by Director Leila Schaub, “We really serve anybody that wants to be part of the solution in health and wellness along the I-70 Corridor.” The BPRD provides local

community members with recreational services, including youth and adult sports leagues, fitness classes, aquatics programs, and more. Additional amenities include a weight room, large

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gymnasium, small fitness room, junior Olympic-sized pool, toddler pool, continuous pool, steam rooms, and locker rooms, all of which are available for use by the public.

BPRD's story began in 2000 when four local residents decided to form a recreation center for their town and community, with particular importance placed on providing youth with a safe location to connect and play. In 2002, local voters approved a \$1.8 million bond to build the center and set aside the minimal amount needed to initially fund operations. BPRD officially opened to the public in October 2007.

Sustaining and building community relationships is at the heart of what the Bennett Park and Recreation District does. As reiterated by Ms. Schaub, "It is about building the relationships and sustaining this community so people don't have to go into town. They are safe here in their own community." One of the ways that BPRD builds relationships is through arts and culture programming. It provides art classes, dance opportunities, and community meeting rooms. It also hosts a large vendor market and fundraising event every year on Small Business Saturday. This is the biggest event of the year for the Rec. District and the most important day for fundraising via a silent auction. Along with the vendor market and silent auction, BPRD has also partnered with the Bennett Arts Council to house the Fiber Arts Show at that event.

Along with providing recreational and cultural opportunities for local residents, the BPRD has served as an emergency Red Cross shelter since 2007.

For more information about Bennett Park and Recreation District, please visit [www.bennettrec.org](http://www.bennettrec.org) or call 303.644.5040. The BPRD is located at 455 S. First St., Bennett, CO 80136 (Schaub, 2019).

#### *Bennett School District*

Bennett School District 29J has been in existence for over 100 years and is comprised of a preschool, elementary school, intermediate school, middle school, and high school. Its

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mission statement is to “provide a safe environment for a quality education with high expectations for success, ensuring students obtain the necessary skills to achieve their full potential and to think critically as responsible citizens in a complex, diverse, and ever-changing world (Bennett School District, 2019). Along with providing academic opportunities for Bennett’s children and youth, the school district has long provided arts and culture opportunities for area residents. Its arts and culture contributions can be broken down into four categories: visual arts, musical arts, drama, and agriculture.

Students at Bennett School District have an opportunity to take visual arts classes starting in elementary school and going all the way through high school. The most in-depth visual arts classes are taken during High School and art from the participating students is displayed around the campus throughout the year. Student artists also participate in the annual Student Art Show, which is hosted by the Bennett Arts Council and displayed for the public at Town of Bennett Town Hall.

Musical arts are an important part of the arts and culture offerings at Bennett School District. Bennett Elementary School has a general music teacher and performs two concerts a year. Starting in the sixth grade, students can choose to take band or choir and these classes are offered through twelfth grade. Both programs perform two concerts a year and participate in competitions throughout the state. The band also performs at the annual Bennett Days celebration. Along with traditional band classes, the Bennett School District also hosts the Eastern Plains Honor Band that performs an annual concert. Overlap between sporting and artistic endeavors happens at “home” football and soccer games. The Pep Band which consists of eighth to twelfth graders performs at “home” football games and the choir performs the National Anthem at the beginning of all “home” soccer matches.

Drama has become an important part of the artistic experience for Bennett School District students. Theater classes are offered from ninth to twelfth grade and consist of



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beginning to advanced drama. Along with performing three plays annually, students put on a musical every other year which incorporates the school band. Bennett School District also hosts Strasburg School District's middle school and elementary school plays. Bennett High Students can also take theater tech class where they learn costuming, building sets, and calling light and sound during performances (Klomp, 2019).

The Future Farmers of America at Bennett School District contributes to the community's cultural happenings in a big way. The Bennett FFA is an agricultural science program that develops students' "potential for premier leadership, personal growth, and career success through agricultural education" (Bennett FFA, 2019). Students in the program participate and volunteer in community events throughout the year, including the Colorado State Fair, the National Western Stock Show, National FFA Week, various cook-offs, and Taste of Colorado (Bennett FFA, 2019). It will also be partnering with the Town of Bennett on two gardening grant projects. Last year, Bennett FFA received the Gold Award which only two percent of FFA clubs throughout the country receive. It will be accepting its award in 2019 at the National FFA Conference (Hudson, 2019).

#### *Byers School District*

Byers School District is participating in numerous activities that support arts and culture in the area. There is an annual school play, elementary music classes, and art classes that cover kindergarten through twelfth grades. The school district's art program is also part of the Alliance group, which is a grant program that promotes arts and culture for students. Programming that is part of the grant includes the Cherry Creek Arts Festival's mobile art gallery, which will visit Byers in the spring of 2020, fieldtrips to theater productions at the Denver Center for Performing Arts, and admission to the Denver Art Museum. The program also features guest lectures and art workshops that the students can attend (Pelton, 2019).

#### *Comanche Crossing Historical Society and Museum*

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Strasburg, Colorado, is listed on the National Register of Historic Places as the site where the Kansas Pacific Railroad laid the railroad tracks that formed the first continuous chain of railroads from the Atlantic Coast to the Pacific Coast on August 11th, 1870. Comanche Crossing Museum features parts of this rich history, and sits on two and a half acres of landscaped grounds, which include historic buildings filled with artifacts, outdoor displays, and a collection of over 8,000 historical treasures. The majority of the historic artifacts at the museum have been collected locally and include old farm tools and equipment, wood working tools, house appliances, a Union Pacific train caboose, military uniforms, electronics, and a baggage cart from the Bennett train depot. The onsite historic buildings feature two one-room schoolhouses, a homestead cabin, and a recently restored railroad depot.

Comanche Crossing Museum developed from the creation of the Comanche Crossing Historical Society in 1969 and a desire to celebrate the Centennial of the joining of the railroad. The museum was established in 1970 and officially opened its doors in 1971. It is a 501(c)(3) that is funded strictly by donations and run exclusively by volunteers. Comanche Crossing Museum is open daily from 1:00 to 4:00 p.m. during the summer months of June, July, and August, and is free to the public. The museum also hosts a week long “pioneer school” during the month of June for children eight years of age and older.

For more information on donating, volunteering, and the “pioneer school,” please contact the museum’s curator Cliff Smith at [CSmith@strasburg31j.com](mailto:CSmith@strasburg31j.com) (Smith, 2019).

#### *Communities that Care*

In 2016, a grant was awarded to Bennett Park and Recreation District to house Communities that Care (CTC), a subsection of Tri-County Health Department. CTC was created because the department noticed a need for more participation from the community to encourage youth to be substance free. Their area of service extends from Watkins to Deer Trail and includes all community members within that zone. The coalition encourages mental health

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awareness, family friendly business practices, building support for hot mapping, altering the physical environment, and making the I-70 Corridor a healthier environment for youth and communities to live in. Teens Living Clean (TLC) is the coalition's youth group and specifically engages youth to support community strategies and inspire a substance-free lifestyle.

CTC and TLC actively participate and encourage arts and culture engagement in the community. In 2018, TLC partnered with the Bennett Arts Council to create the Trupp Park Mural Wall. Details of that project are listed below in the Public Art portion of this inventory. This project not only highlights arts



and culture in the area but also fulfills the CTC goal of altering the physical environment. A cultural highlight of CTC is their desire to unite the community and bridge generational gaps. The coalition uses the Positive Youth Development Model, which encourages communication and interaction among adults and youth to build a stronger bond.

Additional strategies are selected based on specific community needs and are centered on family-friendly activities. Engagement strategies have included bowling and a public dance. Continued partnership with the Bennett Arts Council via volunteering opportunities at events has also provided mentoring opportunities for the youth and has taught them public speaking skills (Harrell, 2019).

#### *High Plains Music Ensemble*

The High Plains Music Ensemble was formed in 2013 in order to provide an opportunity for adult instrumentalists in the Eastern I-70 Corridor to play and perform their art. Volunteer musicians in the ensemble range in age from 15 to 70 and play woodwind, brass, string, and percussion instruments. The Ensemble enjoys playing a wide variety of music genres, including

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classical, pop, jazz, and Americana. It performs three annual concerts in March, June, and October and can be found performing at local events including Bennett Days. They are also part of the Strasburg Arts Council.

Additional information about the organization and their schedule can be found at their website (Williams, 2019).

### *Joyful Journeys-Eastern Corridor*

Joyful Journeys is a non-profit that was started in 2008 and bases out of Denver, Colorado. Its founder was a probation officer who desired to create an organization that focused on breaking generational poverty by concentrating on the family as a whole. It serves an array of people from different social statuses and provides love and compassion so that they can help build community. Their goal is to enrich the lives of community members, one family at a time. Programming for Joyful Journeys involves a wide variety of activities including sports programming, mobile showering, resume building, and arts classes.

In June 2017, Joyful Journeys expanded its mission into the Eastern I-70 Corridor after area resident, Kimberly Nichols, told the organization's founder that the Eastern Plains communities were often overlooked or ignored. The first event conducted by the Eastern Corridor chapter was a backpack drive that provided school bags to children and youth in the community. Fifty backpacks were given away in the first year of the drive and in just two years, that has expanded to 180 backpacks. Joyful Journeys-Eastern Corridor also maintains a "blessing box" across the street from the Bennett-Watkins Fire Rescue's administrative office in Bennett where anyone can leave or take non-perishable pantry products.

Providing arts and culture opportunities has been an important part of the Joyful Journeys-Eastern Corridor mission because of the diminishing access to arts that they saw in the community. Arts and culture offerings that the organization has provided are cooking classes, creative arts and craft classes, and toddler art. In order to support greater access to the

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arts, Joyful Journeys-Eastern Corridor sponsors families or individuals that might need or want help in accessing arts activities and opportunities.

More information can be found at their Facebook page “Joyful Journeys-Eastern Corridor” (Nichols, 2019).

#### *Morgan Community College Bennett*



The Morgan Community College (MCC) Bennett Center officially opened in 1988, but the college had already been serving the area with classes for at least five years prior to that date. The Bennett Center serves more than 375 students annually in an area that reaches from beyond Aurora to Agate, and Wiggins to Kiowa. MCC has developed numerous partnerships in the areas surrounding Bennett, which has led to courses designed specifically to meet the needs of area businesses and services. Examples include Industrial Electrical and Mechanical Maintenance, EMT, and phlebotomy courses. Other partnerships include the local school districts, development boards, the Lions Club, artists and artisans, members of the nearby agricultural community, and the Town of Bennett. By leveraging these important relationships, striving for additional outreach opportunities, and continuing to provide courses relevant to the needs of the community, MCC hopes to eventually develop a full-service campus in Bennett.

Morgan Community College actively promotes the arts at both its Fort Morgan and Bennett locations. One of the most important ways it does this is through the college’s Center for Arts and Community Enrichment (CACE), which has a special commitment to supporting and growing opportunities for arts and humanities throughout the MCC service area, including Bennett. In November and December 2018, the college actively participated in the first Bennett Arts Council Fiber Art Show, as well as coordinated a MCC Jazz Band Ensemble performance for

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Bennett area residents. Through a partnership with and membership on the Bennett Arts Council, MCC was proud to provide a location for the first Eastern I-70 Corridor Art Show and Mural Wall Auction in April 2019. MCC also partnered with the Bennett Arts Council, May Farms, and UACED by sponsoring the 2019 Eastern Plains Summer Concert Series. Part of the skillset the Regional Director at the MCC Bennett Center brings to her job includes having produced community and high school theater productions and taught a wide variety of theater, art, and humanities courses for the last 30 years. MCC's goal is to leverage this unique skillset to provide stronger collaboration with the community in order to bring more live theater, dance, and arts classes to the area.

Like the Bennett Arts Council, Morgan Community College shares a deep desire to see arts and culture develop in Bennett and the surrounding Eastern I-70 Corridor communities. MCC believes that community engagement is fundamental to growing the college's presence. One of the primary ways MCC plans to accomplish this is through ongoing support of the arts and recognition of the unique and diverse backgrounds and histories of long-time, new, and future Bennett-area residents. Through support of the humanities, MCC has shown its commitment to the community it serves, and will continue to do so as it supports artistic efforts that bridge cultural and diversity differences and help a community thrive.

In addition to supporting arts and culture, Morgan Community College also provides support for other types of community organizations and events, including local fairs, rodeos, and high school activities. For more information on Bennett MCC, please contact Robbin Schincke at [Robbin.Schincke@morgancce.edu](mailto:Robbin.Schincke@morgancce.edu) or 303-644-4034 (Schincke, 2019).

#### *Strasburg Arts Council*

The mission of the Strasburg Arts Council (SAC) is to enrich the cultural lives of our community by nurturing and supporting excellence in the arts; promoting, presenting and encouraging educational activities; and increasing the communities' awareness of and

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appreciation for the arts (Strasburg Arts Council, 2019).

SAC has supported arts and culture in Strasburg and its neighboring communities by heading up the Hemphill Middle School Drama Club, sponsoring the Interfaith Christmas Choir, and buying the Strasburg High School art program a kiln. High Plains Music Ensemble also operates under the umbrella of the Strasburg Arts Council (Authier, 2019).

#### *Strasburg School District*

Strasburg School District has multiple arts and culture groups and activities that are active throughout the school year. The District's elementary school has a general music class, the middle school has two school bands and a choir, and the high school has a choir, pep band, and school band. The school district also hosts a talent show each school year in the spring.

In addition to the arts curriculum featured at Strasburg School District, Strasburg Elementary is home to the Strasburg Singers, which is an early morning extra-curricular choir of fourth and fifth graders from Strasburg Elementary. The choir was started in 2007 and is 66 members strong. It performs two concerts a year and put on a fully staged musical in the spring (Authier, 2019).

#### *Unincorporated Arapahoe County Economic Development*

Unincorporated Arapahoe County Economic Development (UACED) was created in the fall of 2017 and is a 501(c)(3) non-profit organization. The organization was born out of a meeting with the Arapahoe County Planning and Zoning Department, Arapahoe County Commissioner Jeff Baker, and rural Arapahoe County community leaders in which it became apparent that Unincorporated Arapahoe County did not have representation or a voice in economic development initiatives in the area. From this need, Janet Cook and other rural business leaders were motivated to create the organization in order to provide a visible advocate for Arapahoe's rural communities with the county government as well as bring projects to the region that support economic vitality.

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UACED serves all of Unincorporated Arapahoe County including both urban and rural areas. Its mission is to promote positive growth and prosperity throughout the rural communities and serves as vehicle through which residents and businesses work together to solve problems and improves life in Unincorporated Arapahoe County. Highlighting local businesses that are available for meeting and convention space, advertising fun activities, and getting the rural communities to work together on projects have been the priorities of this organization. The organization’s Board consists of rural community business leaders from throughout the county.

Since its inception, UACED’s contributions to the communities has been in the form of sports equipment for various teams at the Byers Park & Recreation District, updating the picnic tables at the Byers Quint Valley Fairgrounds, providing new livestock panels to the Arapahoe County Fairgrounds, donating funds to the Byers Senior Class Trip, designing and coordinating a 3-Day Colorado Field Guide Itinerary for the Colorado State Tourism Website, and designing and providing rack cards for the Visit Denver organization.

In the fall of 2018, UACED saw an opportunity to support economic development through a partnership with the Bennett Arts Council via a Summer Concert Series. Understanding that the Arts attract both outside investments, drive tourism, foster civic engagement, and help drive



business development, UACED identified an opportunity to enlist a local family farm, May Farms, to help support the 2019 Eastern Plains Summer Concert Series by providing a second location for the series.

May Farms is located east of Denver on Colorado’s High Plains and is a working farm



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dedicated to establishing family traditions as well as creating experiences tailored to accommodate the character of the special event. Since 2018, May Farms has specialized in creating an “Arts Oasis” in the programs they produce such as Murder Mystery dinners, Comedy Shows, Barn Dances, Cowboy Poetry, Rustic Pint Painting, and Brushes & Booze Painting. May Farm’s contributions to arts and culture through their innovative ways of employing and supporting the arts, and through helping improve and strengthen the surrounding communities.

UACED recognizes the importance of building a creative economy and has done that through the Eastern Plains Summer Concert Series partnership. By hosting community events such as free music concerts, this area can become a destination in the community for people from all socioeconomic backgrounds. Arts and culture activities allow individuals to learn, explore, think, dream, and understand. Early exposure to the arts improves educational outcomes and builds confidence, creativity, and self-expression. UACED is proud to be part of the Bennett Arts Council’s success in supporting the arts and providing new experiences for our rural community without having to travel into the Denver Metro area (Cook, 2019).

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## **Eastern I-70 Corridor Venues:**

### *Bennett Community Center*

The Bennett Community Center is located at 1100 E Colfax Avenue in Bennett. Built in 1985, it has become a staple of the Bennett community and has acted as a cultural gathering place for many years. It is currently home to the Food Bank of the Rockies, Lions Club, Antelope Crossing 4-H club, Calvary Chapel, Bennett ATA Tae-Kwon-Do, Prairie Star Square Dancers, Scout BSA, and Young at Heart Seniors.

Yearly events also take place at the Community Center including numerous small group gatherings and conferences, Bennett Arts Council events, and the Town's Breakfast with Santa celebration. In 2019, the Bennett Arts Council events held at the location included a movie night and painting class. Breakfast with Santa is a yearly event that features a visit from Santa and breakfast from the Town Board of Trustees. Proceeds generated go directly toward providing a family in need with a holiday celebration.

For more information on any of these organizations or rental opportunities, please contact Christina Hart at [chart@bennett.co.us](mailto:chart@bennett.co.us) or 303-644-3249 ext. 1001.

### *Charles Muegge House*

Soon after the arrival of the Kansas Pacific Railroad in 1870, homesteaders began streaming into the area that would eventually become Bennett in order to claim their 640-acre homesteading land. This migration helped in the establishment of Bennett, making it a commercial, shipping, and social center of the high plains of Colorado.



Garrett Harris was one of these settlers, albeit, much later than 1870. He settled his land in the early 1900s and constructed, what is now known as the Charles Muegge House on his

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land, just south of Bennett. The home itself is a simple gable, wood-frame box with a wrap-around porch and subtle Victorian embellishments. Garrett cultivated dryland wheat, corn, and other non-irrigated crops, like his fellow farmers.

Charles Muegge purchased Garrett's property in 1948 and utilized the house as a bunkhouse for hired hands that worked his crops. The property was purchased by the Town of Bennett in 1998 and the Charles Muegge House continues to be one of the most unique and important historical buildings in Town because of its connection to Bennett's rich agricultural and homesteading past (White, 2019).

In spring 2019, the Town of Bennett was awarded a grant through Adams County Open Space to transform the Muegge House and its surrounding property into a living museum and historic park. The house will be restored to look like an early 1900s Colorado farmhouse and the surrounding property will feature a restored historic combine and vegetable garden. Public art sculptures of farm animals have recently been added to the area to highlight the continued importance of agriculture in the area.

An important feature of the landscape is the cultivation of native grass as part of the Civic Center landscape. The Town specifically allows these areas to grow because of water conservation efforts and the natural aesthetic of the native plants.

### *Trupp Park*



Trupp Park is a public park located at 105 Palmer Avenue in Bennett. It has been an integral part of the Bennett Community for many years and has recently experienced extensive renovations including a new playground, skate park, a stage upgrade, and landscape improvements. Shade structures,

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benches, and a large pavilion create a welcoming environment for all who wish to visit and play.

The park hosts a variety of events throughout the year including private community parties, youth sports, the summer concert series Party in the Park, and Bennett Days. Party in the Park is a free summer concert series that offers I-70 Corridor residents an opportunity to picnic, play, and listen to live local bands. It is held on the second Thursday of June, July, and August. Bennett Days is held annually on the Saturday following Labor Day. A farmer's market, art show, play area, rodeo, food truck rally, live music, and fireworks make this the Town's most successful celebration of the year.

Trupp Park is an important arts and culture venue in Bennett that has helped shape the community by offering a location for people to gather and celebrate their home town.

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## **Eastern I-70 Corridor Events:**

### *Bennett Days*

Bennett Days is the year's biggest public celebration for the Town of Bennett and the event is entirely focused on building community and celebrating the Town's residents. Originally named the Harvest Festival, the event also highlights Bennett's agricultural roots. It is free to the public to provide greater access and encourages residents to engage with each other and their government. It also is a source of economic development through the art show and vendor market, which showcases the areas small artisan business owners.



The amazing part of the event is the way that residents and local organizations contribute. The parade and stage performances are filled with local organizations and groups that wish to connect with their community while exhibiting the talents that they have built. Examples of performances include live music from area-specific bands, traditional Mexican dancing, and so much more.

Other fun events and performances at the annual celebration include a rodeo, inflatable obstacle courses, bounce houses, caricatures, balloon animals, magicians, face painting, food trucks, a public art engagement piece, giveaways, and a community dinner.

The annual celebration is fully funded through local sponsorship and the Town could simply not accomplish all that it does without the help of these generous donors.

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### *Fourth of July*

Every year the Byers Park and Recreation District hosts a Fourth of July community celebration. Events include a fundraiser meal for the Byers Fire Protection District 9, a Silver & Gold Seniors Group pancake breakfast, an Independence Day parade, street fair, BBQ dinner, rodeo, and fireworks (Byers Park and Recreation District, 2019).

### *Hometown Days*

It was 3:00 p.m. on August 15, 1870, when the Kansas Pacific Railroads met just east of Strasburg. There was not a big celebration – the American flag and a keg of whiskey sat at the center of the last 10 1/4 miles of track to be laid. The first crew from either the east or the west to reach the center was the winner. The east team reached the center point and continued on to meet the west team. When the last spike was driven, a new record for laying track was set. When the rails were joined at Promontory, Utah, in May 1869, the Union Pacific Railroad did not have a railroad bridge across the Missouri River. The only way to cross the Missouri River was by ferry boat. The Kansas Pacific Railroad had a railroad bridge spanning the Missouri River giving it the first continuous link.

Hometown Days began in August 1970 to celebrate the opening of the new Comanche Crossing Historical Society's Museum and to act as a fundraiser for the museum. The day began with a parade followed by many activities such as bread making, wheat threshing, and a re-enactment of the joining of the rails. The museum continued to coordinate the Hometown Days celebration for several years until the Hometown Days Committee was formed. The Committee is comprised of 10 dedicated volunteers, some with over 20 years of dedication.

The festivities are held the second weekend in August throughout the community of Strasburg. Most activities are free, including the barbecue, which is sponsored by Independent Bank. The Comanche Crossing Museum, one of the best kept secrets in the state, is also open for tours. (Strasburg Parks and Recreation District, 2019).

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## **Eastern I-70 Corridor Public Art:**

### *Teens Living Clean Mural Wall*

In the summer of 2018, the Bennett Arts Council began a partnership with Teens Living Clean to create a mural wall for Trupp Park that would bring color and imagination to the park, and would celebrate and encourage the community's young people to get more involved.



The TLC and Bennett Arts Council mural wall is designed and painted annually and is partially funded by the proceeds from auctioning off the past year's mural wall. In the first mural wall design, the youth featured aspects of their lives associated with living on the Eastern Plains of Colorado. Design elements included the Bennett skyline, rolling plains, grain silos, and neighborhood houses.

### *Muegge House Agricultural Animal Menagerie*

During July 2019, the Town of Bennett installed public art sculptures around the Charles Muegge House that featured a variety of farm animals. After receiving feedback from the Arts and Culture Community Survey that residents wanted to see the agricultural history of Bennett reflected in public art, the livestock sculptures were chosen because of their connection to farming. The series of animal sculptures includes a grazing horse, a lying foal, a donkey, two sheep, a large pig, a piglet, a rooster, and a flock of hens.

### *Bennett Town Hall Bronze Sculpture*

In November 2018, the Town of Bennett acquired its first sculptural art piece. The bronze sculpture was purchased from the Randolph Rose Collection and features two children, a boy and girl, sitting on a bench reading a book. The children are wearing historic dress and

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their simple joy is reminiscent of childhood fun. The statue is located directly in front of Town Hall close to the center flower bed.

#### *Rotating Art Display at Bennett Town Hall*



Beginning in January 2019, the Town of Bennett initiated a rotating art wall in the lobby of Town Hall. The wall was created in order to provide local artists with more opportunities to display their work in the area. Submittals for the rotating art display are taken year round and artwork is displayed for three months.

For more information or if you would like to display your artwork, please contact Taeler Houlberg at [thoulberg@bennett.co.us](mailto:thoulberg@bennett.co.us).

#### *Water Tower Sculpture by Scouts BSA*

Every year, Bennett Days parade entry groups are asked to build a float around the theme of that year's Bennett Days Celebration. The theme of the 2018 Bennett Days was "This is Home" and the Scouts BSA created a miniature replica water tower of the old Town of Bennett Water Tower.

Upon seeing the water tower in the parade, the Town of Bennett Mayor expressed a desire to acquire the piece for the town. The Scouts BSA offered to donate the replica water tower and it was given to the Town during a Board of Trustees meeting. The miniature now sits in the entrance lobby of Town Hall.



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### **Eastern I-70 Corridor Government Policy:**

#### *Adams County Office of Cultural Affairs*

The Adams County Office of Cultural Affairs oversees the Adams County Public Art Program, the Adams County Visual Arts Commission, and the Adams County Cultural Council. As part of the Public Art Program, the Board of County Commissioners dedicated ½ of one percent of the total cost of construction on any new county-owned building to facilitate public art projects throughout the county. The Adams County Visual Arts Commission oversees the Public Art Program as well as the county's overall arts and culture initiative. The Adams County Cultural Council is responsible for recommending Scientific & Cultural Facilities District (SCFD) funding to eligible arts organizations that serve Adams County residents (Adams County, 2017)

#### *Bennett Arts and Cultural Division and Fund*

In 2018, the Town of Bennett Board of Trustees passed Resolution No. 734-18, which retroactively established the Bennett Arts and Cultural Division and Fund, and clarified its purpose and mission. The Bennett Arts and Cultural Division operates as a division of the Town's administration department and oversees the Bennett Arts Council, Bennett Days, Trunk or Treat, and any additional cultural or artistic activities at the Town. A copy of Resolution No. 734-18 has been included in this master plan as Appendix D.

## Community Arts and Culture Goals: Inclusion, Outreach, Access, Education

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The remaining section of this master plan lists the long-term community goals that were created in order to support arts and culture growth in Bennett. There are four goals in total and each is based on the main areas of focus identified via the inventory and analysis process. The four areas of focus are: inclusion, outreach, access, and education. The following pages list each specific community goal and the steps to implementation necessary to meet those goals. A graphical three-year timeline has also been included in this master plan as Appendix A.

### ***Inclusion***

**Goal: Ensure that all demographics in Bennett are represented in the community's arts and culture initiative.**

Identify key community groups that the Bennett Arts Council can engage to broaden representation.

*Steps to implementation:*

1. Brainstorm potential contacts and community leaders who can help connect the Bennett Arts Council with underrepresented demographic groups.
2. Organize a meeting with community leaders to receive feedback on how those groups can be more actively represented.
  - i. Ensure that Bennett youth are represented and heard at the meeting of key stakeholders.

Once specific demographics have been identified, move to increase community partnerships.

*Steps to implementation:*

1. Approach community organizations about different opportunities to be involved.
  - i. Sponsorship
  - ii. Venue site for events
  - iii. Volunteering opportunities for organization members
  - iv. Representation on the Bennett Arts Council
  - v. Etc.
2. Support community organizations in their choice of participation.
  - i. Specific support offered will vary based on the participation, need, and desire of each organization.
3. Appoint community representatives to sit on the Bennett Arts Council.
4. Incorporate more diverse programming into the Bennett Arts Council yearly events calendar.

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## Outreach

**Goal: Improve outreach for all aspects of arts and culture in the area, including Bennett Arts Council programming.**

Establish a centralized online resource of information for residents and arts organizations in the area.

*Steps to Implementation:*

1. Identify the best online platform to use to disperse information about arts and culture events in the Bennett area.
2. Create an online platform account and ensure all Bennett Arts Council members have the ability to contribute to the calendar.
3. Commit Bennett Arts Council members to updating their specific programming into the centralized online platform.
4. Launch awareness campaign so area residents know where to look for all current arts and culture programming and events.

Continue to identify and incorporate key ways in which the community receives information.

*Steps to Implementation:*

1. Conduct verbal surveys of event attendees to catalog how they heard about the event.
2. Review success of centralized online source and evaluate the need for an eNewsletter.
3. As informational trends shift, evaluate with Bennett Arts Council members how best to adapt to changes in communication.
4. Implement best practices for outreach as required.
  - i. Continue to identify partnerships and marketing strategies with media outlets.

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## Access

### Goal: Increase access to various forms of art throughout the community.

Increase the amount of public art installation in the Town of Bennett.

#### *Steps to Implementation:*

1. Research sustainable funding mechanisms for public art.
  - i. Approach Board of Trustees on securing yearly budgetary allotment for public art.
  - ii. Though not considered sustainable, incorporate grant and sponsorship opportunities into public art funding mechanism.
2. Once funding has been secured, leverage Bennett Arts Council members to brainstorm, prioritize, and approve design of public art.
  - i. Incorporate feedback from 2019 Arts and Culture Community Survey for sculpture ideas.
  - ii. Identify prime locations for public art projects and create a map that identifies each location.
  - iii. Ensure that public art is representative of Bennett's history and culture.
  - iv. Evaluate future needs for a Public Art Committee as a subset of the Bennett Arts Council.
3. Encourage various public art initiatives that can include but are not limited to:
  - i. Quarterly visual art shows and displays
  - ii. Art on loan competition
  - iii. Bennett Art Tour
  - iv. Public art wayfinding along trail system
  - v. Identify common community item that can be incorporated into a public art program
4. Research the potential of creating an arts center in Bennett that incorporates access to all forms of art.

Incorporate more opportunities for performing arts and community events/festivals in the Bennett Arts Council yearly calendar.

#### *Steps to Implementation:*

1. Identify types of performing arts programming not already included in the yearly Bennett Arts Council calendar and seek out other artistic opportunities and programming.
2. Reach out to other arts organizations in the area to identify potential performing arts groups.
3. Identify historically significant days, occasions, or cultural characteristics that can be celebrated as part of a community event or festival.
4. Engage and plan events leveraging the newly identified art groups or opportunities.

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Obtain funding eligibility from the Science and Cultural Facilities District (SCFD) upon completion of the five-year moratorium.

*Steps to Implementation:*

1. Provide arts and culture programming consistently for three additional years in order to obtain eligibility for SCFD funding in January 2023.
2. Complete SCFD Eligibility Application and submit for review and approval.
  - i. Maintain a detailed record of arts and culture events including event names, locations, descriptions, attendance numbers, and number attendees by county.
  - ii. Maintain the Arts and Cultural Fund as a separate entity in Bennett's yearly operating budget with funding dedicated specifically to arts, culture, and scientific events.
  - iii. Include Resolution No. 734-18, Resolution Retroactively Establishing the Bennett Arts and Cultural Division and Fund and Clarifying Its Purpose and Mission in the eligibility application.

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## **Education**

### **Goal: Increase access to arts and culture educational opportunities.**

Create a resource database of venues and teachers that can assist in educational programming.

#### *Steps to Implementation:*

1. Reach out and maintain relationships with local educational institutions, arts organizations, and local artists to find potential teachers for art classes.
2. Establish locations that are viable in supporting art education.
3. Research the potential of creating an artist guild for Eastern I-70 Corridor artists.

### **Incorporate innovative ways to educate current and future artists.**

#### *Steps to Implementation:*

1. Use database resources to formulate community specific educational opportunities for artist at all levels of ability.
2. Incorporate and promote educational opportunities in the centralized arts and culture calendar.
3. Encourage participation from all residents despite their background in the arts.

# Appendices

## Appendix A: Timeline for Implementation for Community Arts and Culture Goals

	<b>Inclusion:</b> Identify key community groups that the Bennett Arts Council can engage to broaden representation.	<b>Inclusion:</b> Once specific demographics have been identified, move to increase community partnerships.	<b>Outreach:</b> Establish a centralized online resource of information for residents and arts organizations in the area.	<b>Outreach:</b> Continue to identify and incorporate key ways in which the community receives information.	<b>Access:</b> Increase the amount of public art installations in the Town of Bennett.	<b>Access:</b> Incorporate more opportunities for performing arts and community events/festivals in the Bennett Arts Council yearly calendar.	<b>Access:</b> Obtain funding eligibility from the Science and Cultural Facilities District (SCFD) upon completion of the five-year moratorium.	<b>Education:</b> Create a resource database of venues and teachers that can assist in educational programming.	<b>Education:</b> Incorporate innovative ways to educate current and future artists.
<b>2020 Q1</b>	Brainstorm potential contacts and community leaders who can help connect the Bennett Arts Council with underrepresented demographic groups.						Provide arts and culture programming consistently for three additional years in order to obtain eligibility for SCFD funding in January 2023 (annual).	Reach out and maintain relationships with local educational institutions, arts organizations, and local artists to find potential teachers for art classes.	
<b>2020 Q2</b>	Organize a meeting with community leaders to receive feedback on how those groups can be more actively represented. 1. Ensure that Bennett youth are represented and heard at the meeting of key stakeholders		Identify the best online platform to use to disperse information about arts and culture events in the Bennett area.		Research sustainable funding mechanisms for public art.			Establish locations that are viable in supporting art education.	
<b>2020 Q3</b>		Approach community organizations about different opportunities to be involved.  Support community organizations in their choice of participation			Approach Board of Trustees on securing yearly budgetary allotment to public art.  Incorporate grant and sponsorship opportunities into public art funding mechanism.				Use database resources to formulate community specific educational opportunities for artists at all levels of ability.
<b>2020 Q4</b>		Appoint community representatives to sit on the Bennett Arts Council.	Commit Bennett Arts Council members to updating their specific programming into the centralized online platform.						Incorporate and promote educational opportunities in the centralized arts and culture calendar.

2021 Q1		Incorporate more diverse programming into the Bennett Arts Council yearly events calendar (annual).	Launch awareness campaign so area residents know where to look for all current arts and culture programming and events.		Once funding has been secured, leverage Bennett Arts Council members to brainstorm, prioritize, and approve design of public art. 1. Incorporate feedback from 2019 Arts and Culture Community Survey for sculpture ideas. 2. Identify prime locations for public art projects and create a map that identifies each location. 3. Ensure that public art is representative of Bennett's history and culture.				Encourage participation from all residents despite their background in the arts (annual).
2021 Q2						Identify types of performing arts programming not already included in the yearly Bennett Arts Council calendar and seek out other artistic opportunities and programming.  Reach out to other arts organizations in the area to identify potential performing arts groups.			
2021 Q3					Evaluate future needs for a Public Art Committee as a subset of the Bennett Arts Council.	Identify historically significant days, occasions, or cultural characteristics that can be celebrated as part of a community event or festival.			
2021 Q4					Encourage various public art initiatives that can include but are not limited to: 1. Quarterly visual art shows and displays 2. Art on loan competition 3. Bennett Art Tour 4. Public art wayfinding along trail system 5. Identify common community item that can be incorporated into a public art program	Engage and plan events leveraging the newly identified art groups or opportunities (annual).			

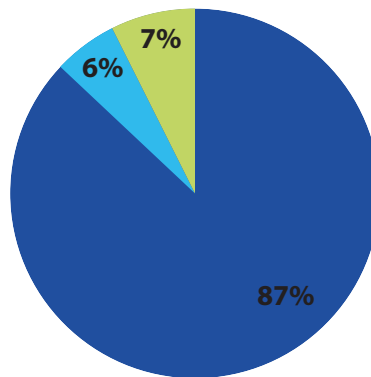


2022 Q1				Conduct verbal surveys of event attendees to catalog how they heard about the event.					
2022 Q2				Review success of centralized online source and evaluate the need for an eNewsletter.				Research the potential of creating an artist guild for Eastern I-70 Corridor artists.	
2022 Q3				As informational trends shift, evaluate with Bennett Arts Council members how best to adapt to changes in communication (annual).	Research the potential of creating an arts center in Bennett that incorporates access to all forms of art.				
2022 Q4				Implement best practices for outreach as required (annual). 1. Continue to identify partnerships and marketing strategies with media outlets.			Complete SCFD Eligibility Application and submit for review and approval. 1. Maintain a detailed record of arts and culture events including event names, locations, descriptions, attendance numbers, and number attendees by county (annual). 2. Maintain the Arts and Cultural Fund as a separate entity in Bennett's yearly operating budget with funding dedicated specifically to arts, culture, and scientific events (annual). 3. Include Resolution No. 734-18, Resolution Retroactively Establishing the Bennett Arts and Cultural Division and Fund and Clarifying Its Purpose and Mission in the eligibility application.		

Appendix B: Arts and Culture Community Survey Responses

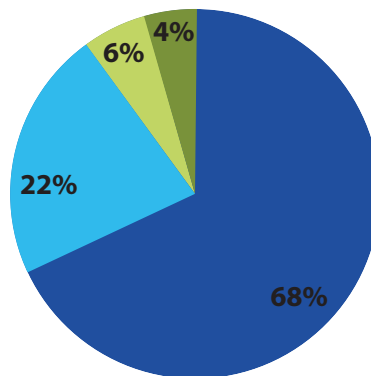
**Do you believe that arts and culture contribute to the overall quality of life in Bennett?**

■ Yes ■ No ■ No Opinion



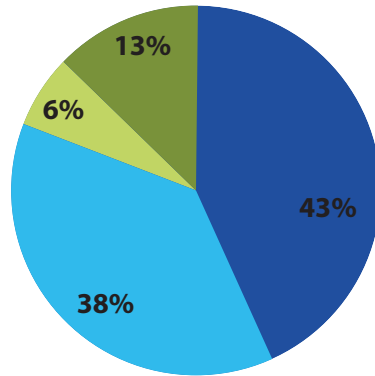
**How important is it to you to have cultural offerings in Bennett?**

■ Very Important ■ Somewhat Important ■ Not Important ■ No Opinion

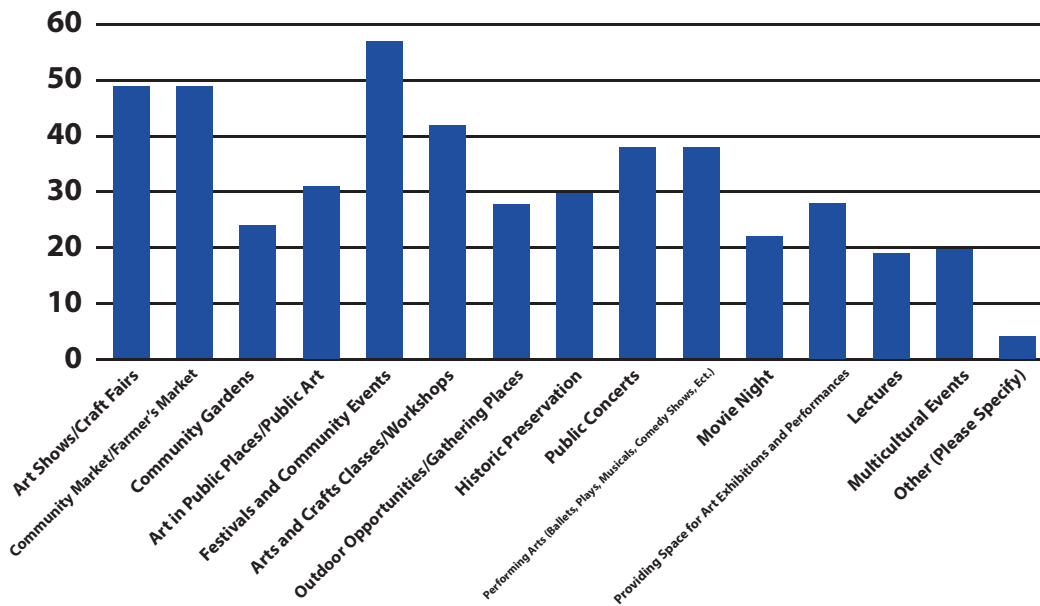


**What role do you think town government should play in the expansion of arts and culture programming in Bennett?**

■ Very Active   ■ Moderate   ■ None   ■ I Need More Information

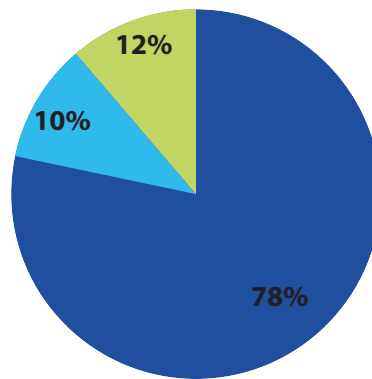


**What community arts and cultural offerings would you like to see most?  
Please select all that apply.**

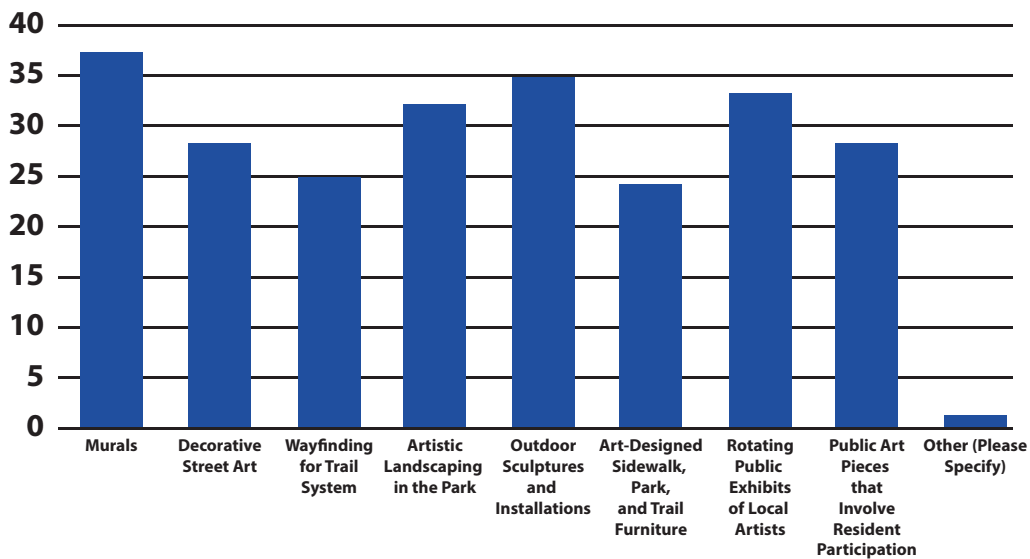


**Would you like to see more artwork installed in the public right-of-way (buildings, streets, walkways, ect.)?**

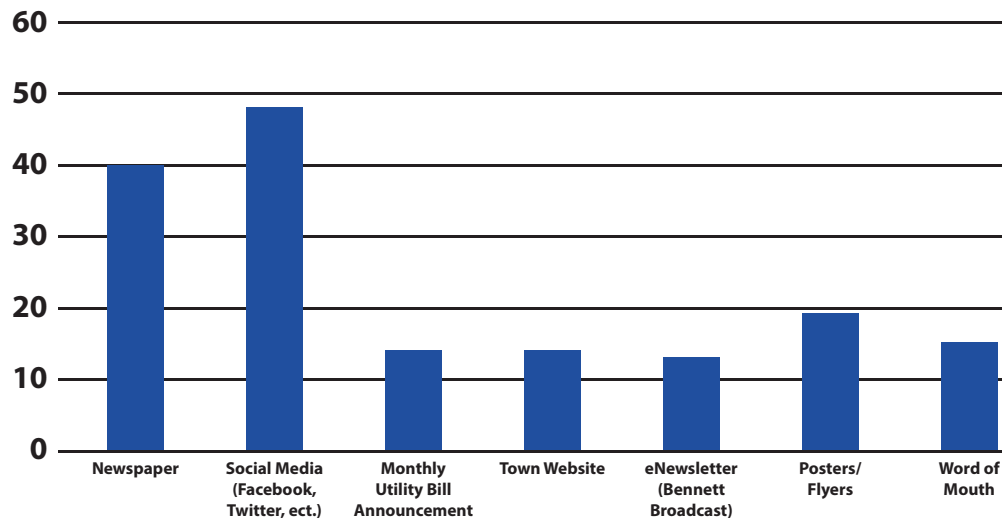
■ Yes ■ No ■ No Opinion



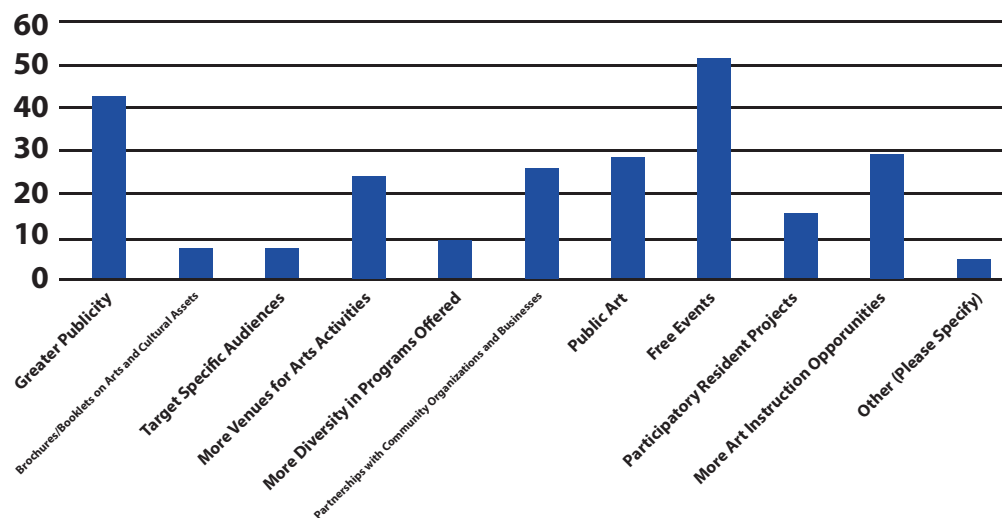
**If you answered yes above, what types of public art would you like to see in Bennett? Please select all that apply.**



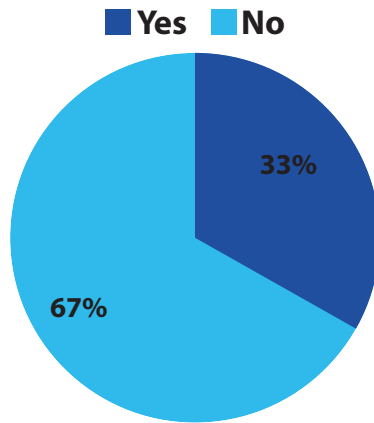
**What is the best way for you to receive information about community arts, cultural and special events? Please select the two best options.**



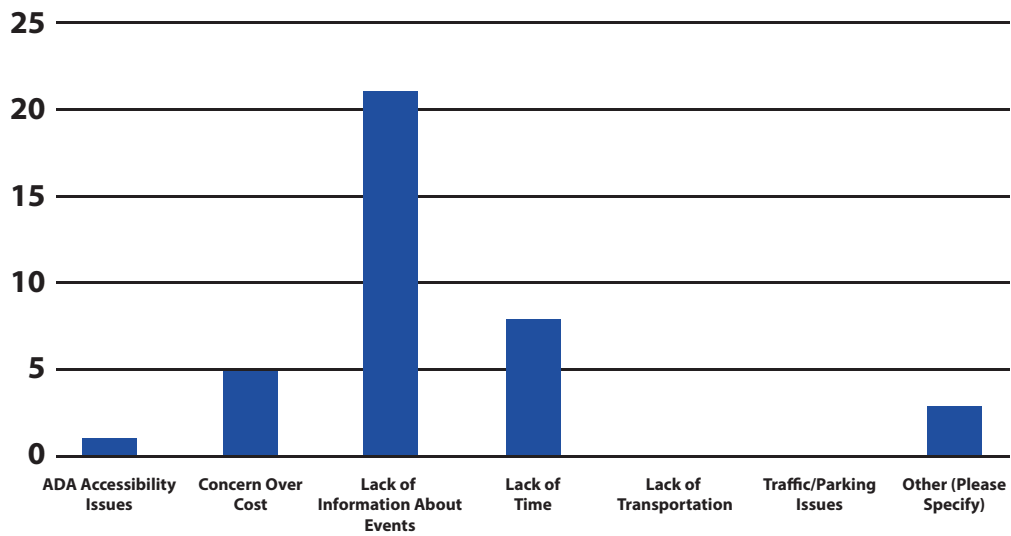
**How can the Bennett Arts Council help improve access to arts and culture? Please select all that apply.**



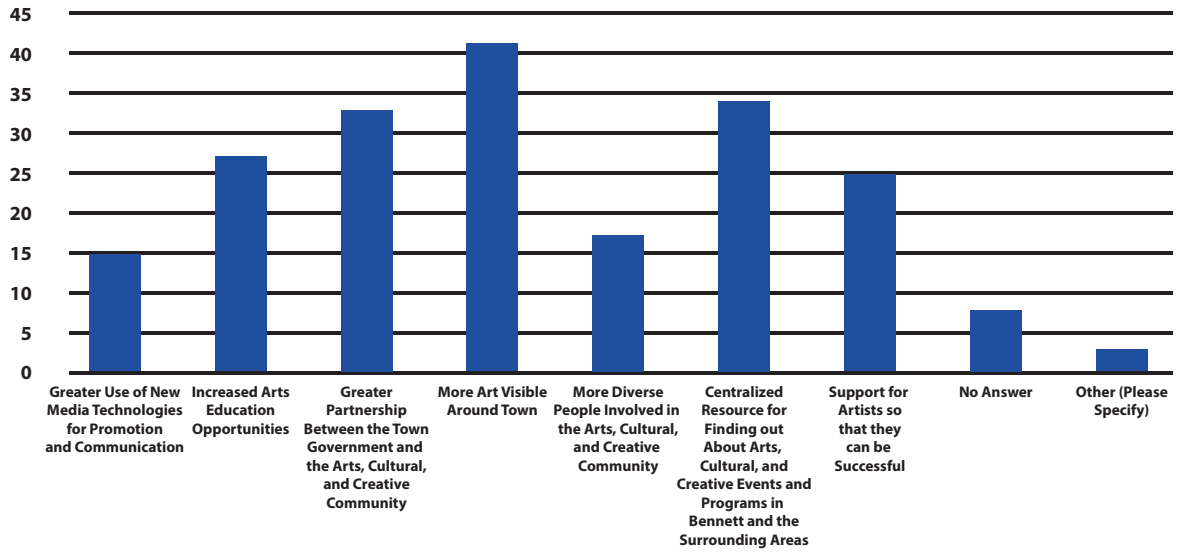
**Are there issues that prevent you from attending more arts and cultural events in Bennett?**



**If you answered yes above, please let us know why.**



**By the year 2025, what are the top things you would like to see from the Bennett Arts Council? Please Select all that apply.**



**RESOLUTION NO. 734-18**

**A RESOLUTION RETROACTIVELY ESTABLISHING THE BENNETT ARTS AND CULTURAL DIVISION AND FUND AND CLARIFYING ITS PURPOSE AND MISSION**

**WHEREAS**, the Board of Trustees desires to increase awareness and promote arts, cultural and scientific opportunities in the Town of Bennett; and

**WHEREAS**, the Board of Trustees also desires to commission and procure arts programming and cultural affairs for the Town of Bennett and its surrounding areas; and

**WHEREAS**, to achieve these goals, the Board of Trustees desires to retroactively establish the Bennett Arts and Cultural Fund and the Arts and Cultural Division within the Town for the above-stated purposes.

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE TOWN OF BENNETT, COLORADO:**

**Section 1.** The Board of Trustees hereby retroactively establishes the Bennett Arts and Cultural Division, effective January 1, 2018. The Bennett Arts and Cultural Division shall operate as a division of the Town's Administration Department and its purposes and responsibilities include, but are not limited to the following:

- A. The promotion of public art, culture, historical and scientific activities, and to support and enhance the hometown feeling and quality of life for the Bennett area through support of community goals and needs.
- B. Promote, connect, and empower arts and culture for all ages throughout Bennett and the Eastern I-70 corridor; valuing sustainability, collaboration, innovation and the transformative power of the arts.
- C. Organize, coordinate and preside over the annual Bennett Days celebration and other arts and cultural events.
- D. Work cooperatively with the Bennett Arts Council, which is a volunteer council made up of Bennett residents and stakeholders, to undertake arts and cultural activities and events.

**Section 2.** The Board of Trustees hereby changes the name of the Bennett Days Fund within the Town budget to the Bennett Arts and Cultural Fund, effective January 1, 2018. The monies currently deposited in said fund and the monies deposited in said fund in the future shall be used for the purposes described in Section 1 of this Resolution.

**Section 3.** All actions heretofore taken by the Mayor, any member of the Board, officers and employees of the Town, not inconsistent with the provisions of this Resolution, relating to the Bennett Arts and Cultural Division and Fund, or actions to be taken in respect thereof, are



hereby ratified, approved, and confirmed.

INTRODUCED, READ, AND ADOPTED this 27<sup>th</sup> day of November, 2018



TOWN OF BENNETT, COLORADO

*Royce D. Pindell*  
Royce D. Pindell, Mayor

ATTEST:

*Lynette White*  
Lynette White, CMC, Town Clerk

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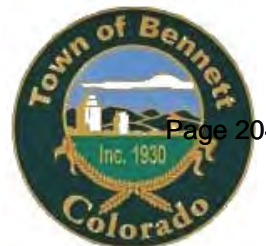
# Bennett Regional Trail Plan

January 2011



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# 1. Planning Process

## Background

This Regional Trail Plan is the result of grants awarded to the Town of Bennett through the Arapahoe and Adams Counties' Open Space Grant Programs; and recommendations from the 2009 Bennett Parks, Trails and Open Space Master Plan which states the following goal and objectives:

### Goal 2:

Meet Bennett's Growing Community Needs for Facility Improvements and Developments.

### Objective 2.1

Develop new facilities which are complementary to the Town's existing parks, trails and open space systems.

### Objective 2.2

Improve access to facilities through the development of pedestrian and bicycle pathways and trails

## Guiding Principals

The guiding principals behind developing a Regional Trail Plan include:

- Identify a trail network system that incorporates off road greenway trails, bike routes and on-street bike lanes.
- Identify key open space corridors and essential trail easements
- Provide for transportation alternatives, recreation and a network of open space.
- Create a network that traverses the Town and serves as a starting point for a wider regional trail network.
- Connect important origins and destinations including neighborhoods, shopping centers, schools, parks and natural areas, transit stops, etc.

## Project Approach

In the summer of 2010 the Town of Bennett, Co. secured professional services and commenced work on the Downtown Planning Study. The Bennett Regional Trail Plan is one (1) of four (4) components within the Downtown Planning Study document (completed in December 2010). The other planning components included a Downtown Planning/Land Use Study, Transportation Plan and Multi-Modal parking facility.

## Community Input

The community was deeply involved in the regional trails planning process. Stakeholders, community members and area residents were asked to provide input at different stages on topics including trailhead amenities, locations and types of trail facilities, trail routing and design. The methods to acquire feedback included various presentations, poster board displays and a trail questionnaire. The results from the 11 completed questionnaires follow.

When asked where future trails should be located; the following comments were given:

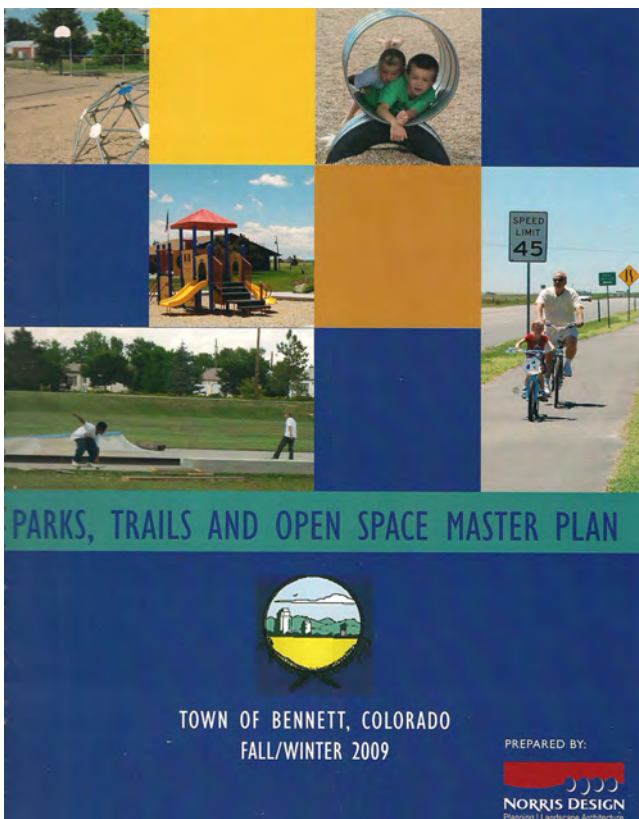


Figure 1.1 Parks , Trails & Open Space Master Plan



- between Bennett and Strasburg;
- through and encircling Town including the Antelope Hills Subdivision;
- along Kiowa Creek, I-70, woodland and wildlife areas; and
- from Antelope Hills to King Soopers/Bennett Marketplace

When asked how new trails would be used:

- 5% recreation;
- 28 % both travel and recreation; and
- 17% did not respond

When asked 'Do you have children who rely on the existing trail/pathways to get around Town?':

- 55% no
- 45% yes

### Regional Trail Planning Area

The regional trail planning area is approximately 460 acres in size. The extents of the planning area are shown in Figure 1.2.

It spans over the Adams and Arapahoe county line and includes properties incorporated within the Town limits, as well as some unincorporated parcels of land adjacent to Kiowa Creek.

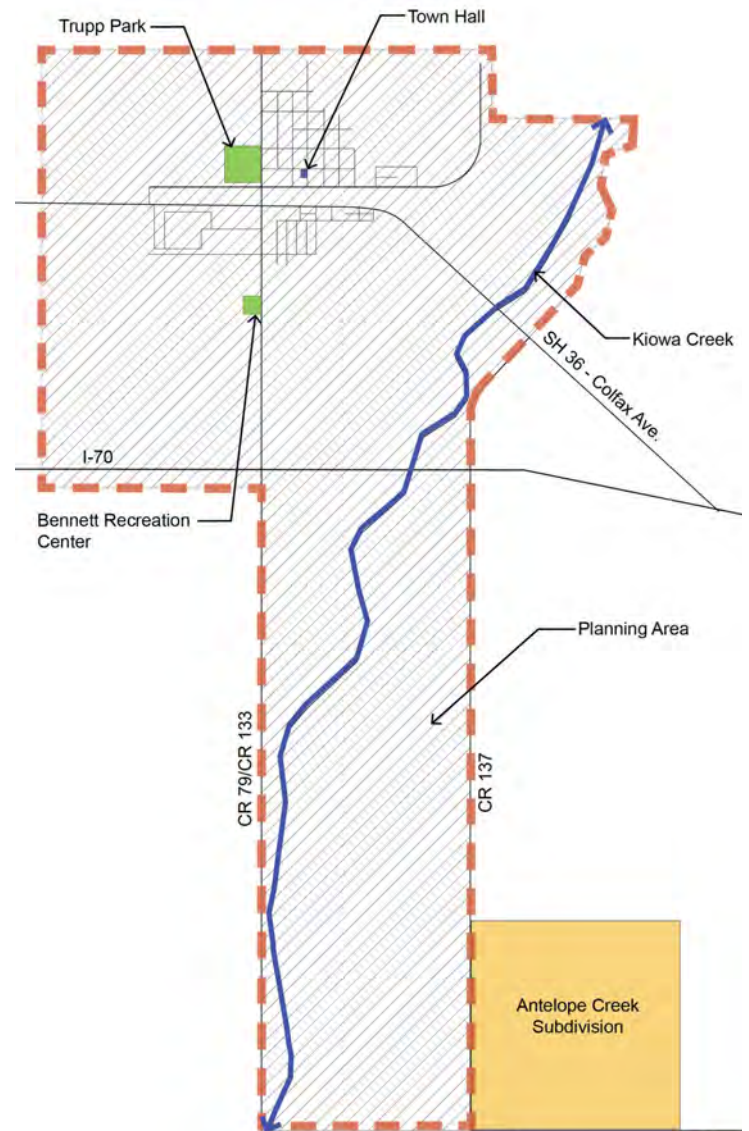


Figure 1.2 Trail Planning Area

## 2. Inventory & Analysis

### Existing Vegetation

The Town of Bennett is located on the western edge of the shortgrass prairie ecoregion within the North American Great Plains. It is primarily comprised of a single herbaceous layer of bunch grasses about 12 to 18 inches in height. The grasslands are used as rangeland for cattle and other livestock production. Riparian corridors along the eastern plains are home to plant species that prefer high moisture levels and include cottonwoods, willows, alders, plums, cattails and tall-grass species. Invasive plant species such as Russian Olive are also prevalent along eastern Colorado's rivers and creeks.

Disturbance of native ecosystems from trail development should be limited. Disturbance during site construction should be mitigated through re-vegetation of native grass species to prevent erosion and limit the establishment of invasive plant species.

### Wildlife Habitat

According to the Colorado Division of Wildlife the area provides valuable habitat for several grassland species including the Swift Fox, Burrowing Owl, Deer, Wild Turkey, Prairie Grouse and other grassland birds, mammals, rodents and reptiles. The riparian corridor along Kiowa Creek is of particular importance to local wildlife especially nesting raptors, deer and wild turkey. Much of the private land along Kiowa Creek is utilized for hunting of wild game animals. Hunting is considered one of the most useful means for controlling the deer population in the area.

The 'Railroad Grade Separation Preliminary Feasibility Study' completed by David Evans & Associates defines suitable habitat for two endangered species: the Preble's Meadow Jumping Mouse and Ute Ladies'-tresses Orchid as follows:

*"Typical Preble's habitat has been described as 'well-developed plains riparian vegetation with relatively*

*undisturbed grassland and a water source in close proximity,' and 'dense herbaceous vegetation consisting of a variety of grasses, forbs and thick shrubs'. USFWS recommends, 'projects within 300 feet of 100-year floodplains associated with rivers and creeks be assessed as to their potential impact to Preble's and its habitat'.*

*Ute ladies'-tresses usually occurs in 'old stream channels, alluvial terraces, sub-irrigated meadows and other sites where the soil is saturated to within 18 inches of the surface at least temporarily during the spring or summer growing seasons'. Kiowa Creek and immediately surrounding riparian habitat meet the minimum requirements for potential orchid habitat".*

Construction activities and regular trail use can displace local wildlife. Trails should be located away from high-value wildlife habitats identified by the Colorado Division of Wildlife to include 'riparian zones, nesting sites, or other critical wildlife area.' Wildlife buffer areas should be identified and protected during trail development, maintenance, and use to mitigate habitat destruction and conflicts between trail users, pets, hunters and the existing wildlife population. Topography or vegetation should be used to provide visual buffers and to minimize disturbances to wildlife.

Because the Kiowa Creek and surrounding riparian areas meet or exceeds the minimum criteria for potential Preble's Meadow Jumping Mouse and Ute Ladies'-tresses Orchid habitat, an assessment should be completed prior to the horizontal design and development of any trail within this area.

Fencing along trail corridors should be limited to decrease the impact on existing wildlife circulation routes. Finally, proper trash containment should be provided along trail corridors so that human trash does not become an **Page 210** food source for existing wildlife in the area.

### Soils

The US Department of Agriculture (USDA) categorizes soil texture based on the total composition of materials from the three texture categories; sand, silt and clay. The smallest soil particles are classified as clay with the largest and coarsest making up sand. Soil Texture Triangle Charts (see Figure 2.1) show that soil containing a somewhat equal percentage of materials from all three categories is classified as loam texture. Based on the map shown in Figure 2.3 and the brief soil descriptions in Figure 2.2, the composition of soils within the regional trail planning area are varying degrees of sand, sandy loam and loamy sand.

Soils will need to be evaluated further to determine specific structural properties, permeability and overall suitability for trail construction. A detailed soil report by an experienced Geotechnical Engineer will offer recommendations for trail construction based on a technical soil analysis.

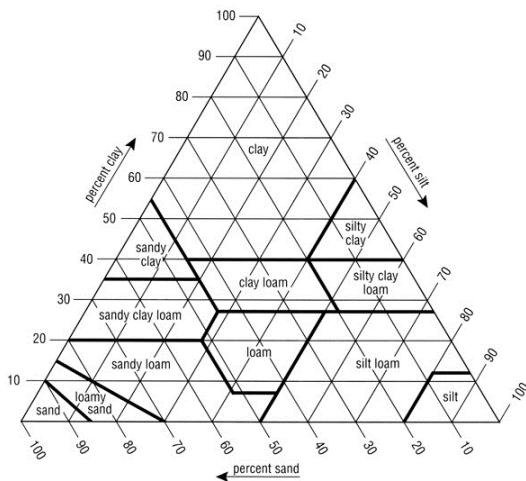


Figure 2.1 Soil Texture Triangle Chart

Adams County Area, Parts of Adams and Denver Counties, Colorado (CO001)				
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
AcC	Adena-Colby association, gently sloping	169.4	1.8%	
AsB	Ascalon sandy loam, 1 to 3 percent slopes	522.0	5.6%	
AsC	Ascalon sandy loam, 3 to 5 percent slopes	148.4	1.6%	
AsD	Ascalon sandy loam, 5 to 9 percent slopes	302.7	3.2%	
At	Ascalon-Platner association	869.3	9.2%	
BoD	Blakeland loamy sand, 3 to 9 percent slopes	24.0	0.3%	
Bt	Blakeland-Truckton association	50.6	0.5%	
Lu	Loamy alluvial land	20.0	0.2%	
Lv	Loamy alluvial land, gravelly substratum	23.7	0.3%	
Lw	Loamy alluvial land, moderately wet	213.5	2.3%	
PIB	Platner loam, 0 to 3 percent slopes	110.2	1.2%	
ReD	Reno hill loam, 3 to 9 percent slopes	9.8	0.1%	
Sm	Sandy alluvial land	354.3	3.8%	
StD	Stoneham loam, 3 to 9 percent slopes	205.1	2.2%	
Tc	Terrace escarpments	0.8	0.0%	
TtB	Truckton loamy sand, 0 to 3 percent slopes	47.5	0.5%	
TtD	Truckton loamy sand, 3 to 9 percent slopes	200.8	2.1%	
TuB	Truckton sandy loam, 1 to 3 percent slopes	19.2	0.2%	
VnD	Vona loamy sand, 3 to 9 percent slopes	30.9	0.3%	
WmB	Weld loam, 1 to 3 percent slopes	375.5	4.0%	
WrB	Weld-Deertrail complex, 0 to 3 percent slopes	27.5	0.3%	
<b>Subtotals for Soil Survey Area</b>		<b>3,725.2</b>	<b>39.6%</b>	
<b>Totals for Area of Interest</b>		<b>9,398.8</b>	<b>100.0%</b>	

Arapahoe County, Colorado (CO005)				
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
BkB	Beckton loam, 0 to 3 percent slopes	5.5	0.1%	
BoE	Blakeland loamy sand, 1 to 20 percent slopes	8.8	0.1%	
BrB	Bresser loamy sand, terrace, 0 to 3 percent slopes	195.3	2.1%	
BsB	Bresser sandy loam, terrace, 0 to 3 percent slopes	34.7	0.4%	
BvC	Bresser-Truckton sandy loams, 3 to 5 percent slopes	881.0	9.4%	
BvE	Bresser-Truckton sandy loams, 5 to 20 percent slopes	49.0	0.5%	
BwD2	Bresser and Truckton soil, 3 to 9 slopes, eroded	107.6	1.1%	
BxD	Buick loam, 5 to 9 percent slopes	14.3	0.2%	
GP	Gravel Pits	11.0	0.1%	
Gr	Gravelly land	140.9	1.5%	
Lv	Loamy alluvial land	6.3	0.1%	
NIB	Nunn loam, 0 to 3 percent slopes	278.3	3.0%	
NrB	Nunn-Bresser-Ascalon complex, 0 to 3 percent slopes	2,347.3	25.0%	
RdD	Reno hill loam, 3 to 9 percent slopes	141.8	1.5%	
RhD	Reno hill-Buick loams, 3 to 9 percent slopes	79.2	0.8%	
RhE	Reno hill-Buick loams, 9 to 20 percent slopes	77.9	0.8%	
Su	Sandy alluvial land	473.6	5.0%	
TrC	Truckton loamy sand, 1 to 5 percent slopes	13.1	0.1%	
TrE	Truckton loamy sand, 5 to 20 percent slopes	378.7	4.0%	
WeB	Weld silt loam, 0 to 3 percent slopes	38.8	0.4%	
WrB	Weld-Deertrail silt loams, 0 to 3 percent slopes	245.6	2.6%	
<b>Subtotals for Soil Survey Area</b>		<b>5,673.6</b>	<b>60.4%</b>	
<b>Totals for Area of Interest</b>		<b>9,398.8</b>	<b>100.0%</b>	

Figure 2.2 Soil Map Legend

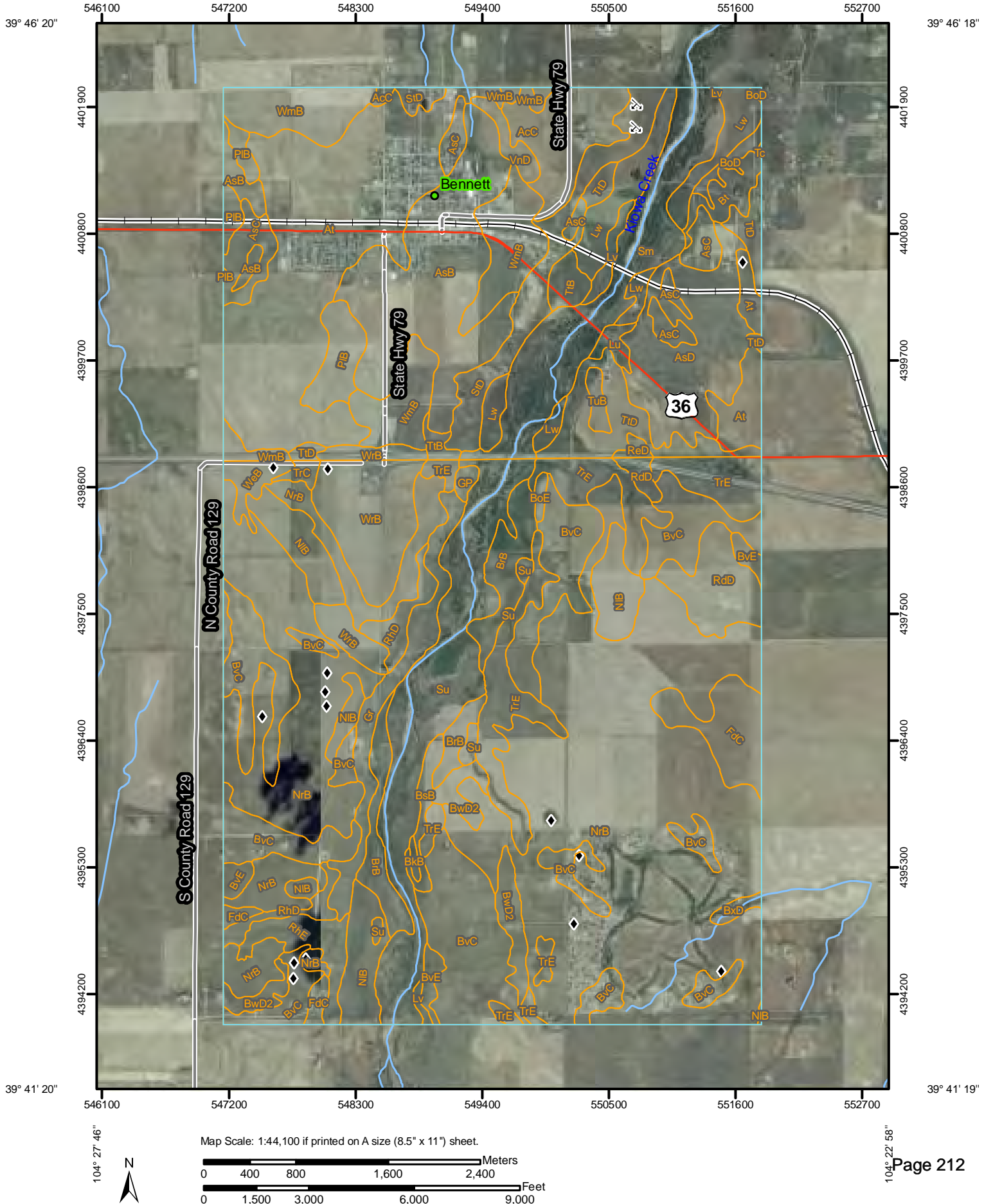


Figure 2.3 Soil Map

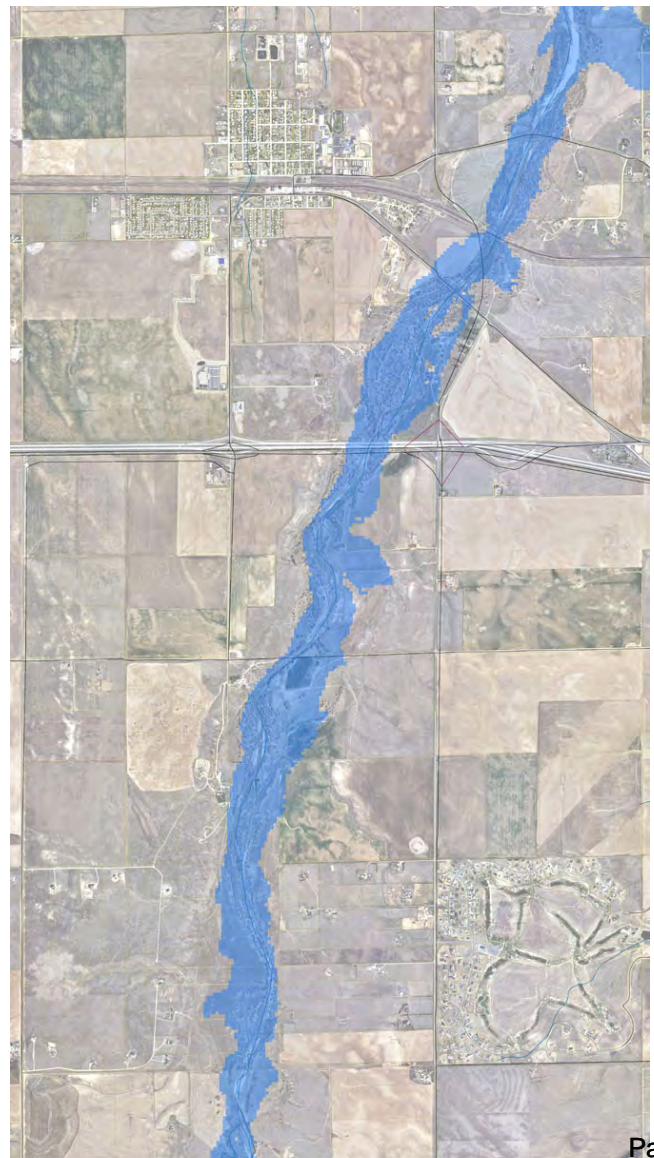
### Wetlands and Floodplains

Kiowa Creek is a 729 mile tributary of the South Platte River flowing northeast through the planning area. It is a dry stream bed except during periods of high precipitation. The US Fish and Wildlife Service has inventory of wetlands located within the regional trail planning area. Figure 2.4 shows existing Palustrine wetland systems adjacent to Kiowa Creek and scattered across neighboring rural land. Palustrine wetlands include inland marshes, swamps and floodplains which lack flowing water and have vegetation dominated by trees, shrubs, herbaceous plants, mosses or lichens.

Wetlands and floodplain areas provide a valuable environmental resource and are generally not suitable for most development specifically buildings and roadways. Every effort should be taken to preserve these areas as open space or conservation easements. Trails and any related earthwork should maintain a minimum 100' distance from all wetland areas. Permanent enclosed building structures including restroom facilities should not be located within the 100-year floodplain boundary. Trail development within the floodplain is acceptable. Figure 2.5 shows the extents of the Kiowa Creek 100-year floodplain.



Figure 2.4 USFWS Wetlands Map



Legend  
 100 Year Floodplain

Figure 2.5 100-Year Floodplain

## Topography and Climate

The topography within the area is generally level to rolling prairie broken by occasional hills and bluffs. Elevations within the regional trail planning area range from 5450-5600 feet above sea level.

The climate in Colorado's eastern plains has large seasonal swings in temperature. Hot dry summers and highly variable winters are common with an abundant amount of sunshine throughout the year. Humidity is generally low with moderate to high wind throughout the year. Summer temperatures are often above 95 degrees with winter lows capable of reaching -10 degrees. Summer thunderstorms and winter blizzards provide up to 16 inches of moisture annually with most of precipitation falling from April through September.

Extreme changes in weather can be abrupt and with little warning. The regional trail network will need to accommodate opportunities for trail users to seek temporary relief and refuge from the elements.

## Transportation Corridors

The transportation corridors with proximity to the planning area include: Colfax Ave (US36) running east-west and bisecting downtown; State Highway 79 (SH79) running north-south zigzagging through downtown; Interstate 70 (I-70) running east-west and about a mile south of downtown; Kiowa-Bennett Road (CR137) running north-south and located at the eastern edge of the planning area, Converse Road (CR133) running north-south and located at the western edge of the planning area; and the Union Pacific Railroad (UPRR) running east-west adjacent to US36. In addition to roadways there is one existing paved trail running north-south just west of SH79 between US36 and the King Soopers parking lot. The Town has current plans to extend this trail north across the UPRR tracks connecting to the school campus via a concrete sidewalk.

The Town has developed around the existing transportation corridors; and the major highways and railroad divide the Town and existing neighborhoods creating physical barriers for pedestrian and bicycle circulation. The regional trail network will need to address existing circulation conflicts and provide safe alternatives of transpiration for trail users. To help alleviate problematic conflicts between highway/railroad traffic and emergency services, current studies are looking at alternatives for rerouting SH79 and constructing a grade separated intersection over the UPRR right-of-way. Refer to the Bennett Downtown Planning Study for additional information.



Figure 2.6 Roadway Network

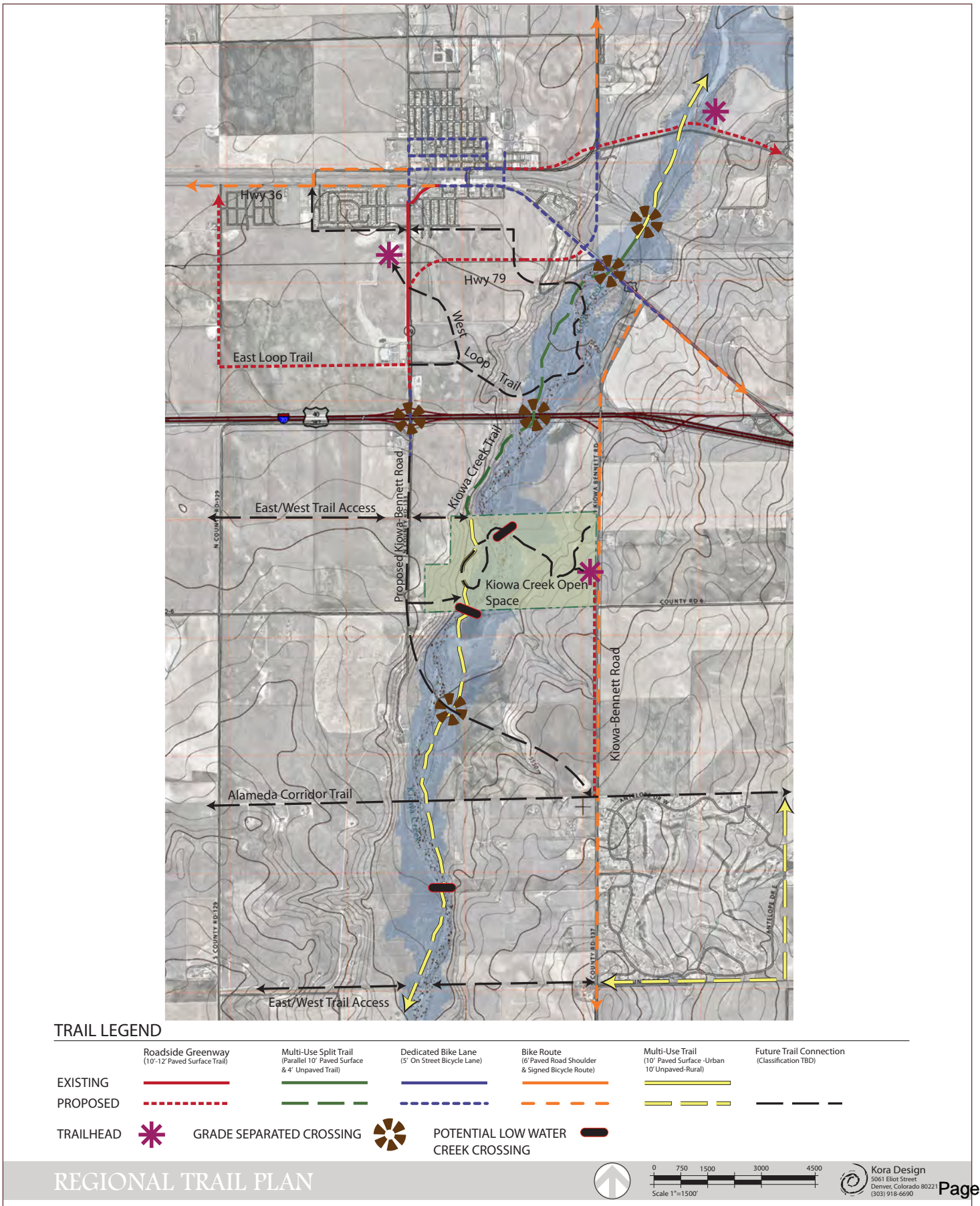


Figure 3.1 Bennett Regional Trail Plan

### 3. Regional Trail Plan

The Bennett Regional Trail Plan performs a very important function in achieving the community's vision for a multi-modal transportation network (see Figure 3.1). It connects residential neighborhoods to schools, business, and recreation opportunities through a system of parks, recreation facilities, open space, and trails. Connection between existing and planned development is another function of the interconnected trail system.

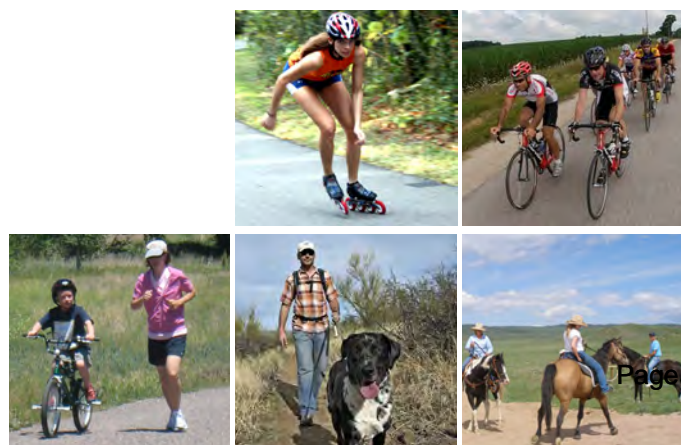
It is anticipated that the trail network will be used by people of all ages and abilities including area residents and regional visitors. Whether utilizing the trails for recreation or to commute to and from destinations; the trails should accommodate an assorted user group including: runners/walkers, bicyclist, pet owners, in-line skaters, persons with disabilities, equestrians, wildlife viewers and nature enthusiasts.

#### Trail Users

One of the primary goals of the plan is to accommodate a diverse group of trail users. For purposes of this plan, a variety of trail uses included in the development of the regional trail network were identified. These include:

- Walking, Jogging and Hiking accommodated by either paved or stable crushed rock or earth pathways of varying width (refer to Shared Use Trail Design under 'Trail Classification').
- Multi-Use Trail cycling or slower moving recreational bicyclists including families, novice cyclists, children, elderly and others who prefer a bicycling experience away from automobile traffic in a scenic corridor. Generally, a paved (minimum 10'-wide) or crushed stone surface is preferred.
- Equestrian users prefer a soft but stable natural surface. Equestrian trail users are better served with access points that can facilitate horse trailer parking/unloading and rest areas with hitching racks and drinking water sources for horses. Planning should avoid conflict between horses and other trail uses.

- On-Road Bicycling includes higher speed bicyclists skilled in riding with vehicle traffic. This use requires adequate lane width, paved shoulders, or designated bike lanes.
- Training and Fitness includes trail users that are training for competition or personal fitness. These users prefer the ability to maintain their pace without stops or disruptions. Distance and grade markers may be helpful.
- Commuting includes use of the trail system for non-motorized transportation including travel to and from work, schools, between neighborhoods and other destinations. Commuting usually calls for a paved multi-use trail or road system with adequate width and low traffic volumes to accommodate bicycles.
- Bicycle Touring includes long distance rides of a half-day or more. Preferred facilities include a continuous paved multi-use trail or roadways suitable for bicycling. In general this user group will be drawn to the regional trails that connect towns and urban corridors via scenic trail routes.
- In-Line Skating requires a paved multi-use trail surface of adequate width (min. 10'-wide) to accommodate skating.
- Wildlife Viewing, Outdoor Education and Interpretation improvements include viewing blinds, interpretive trails, wayside exhibits and sites for stewardship projects and monitoring.





### Proposed Trail Network

The Town of Bennett currently has one existing paved surface trail west of SH79 between Colfax Ave. and the King Soopers/Bennett Marketplace parking lot (see Figure 3.1). This trail segment is frequently used (despite the lack of shade and shelter along the trail) and it served as a building block in the development of the Regional Trail Network. The proposed network consists of nine (9) trail routes and three (3) trailheads that were identified as preferred routes based on input from area residents, Town staff and Downtown Planning Study team members. The proposed trail network is shown in Figure 3.2.

#### Trail Routes

1. Neighborhood-School Bike Route
2. East Town Loop Trail
3. West Town Loop Trail
4. Bennett-Strasburg Trail
5. Kiowa Creek Trail
6. Kiowa-Bennett Bike Route
7. Watkins-Strasburg Bike Route
8. Kiowa-Bennett Road/ SH79 Trail
9. Alameda Trail

#### Trailheads

- A. Downtown Trailhead/Parking Facility
- B. Arapahoe County Trailhead
- C. Adams County Trailhead

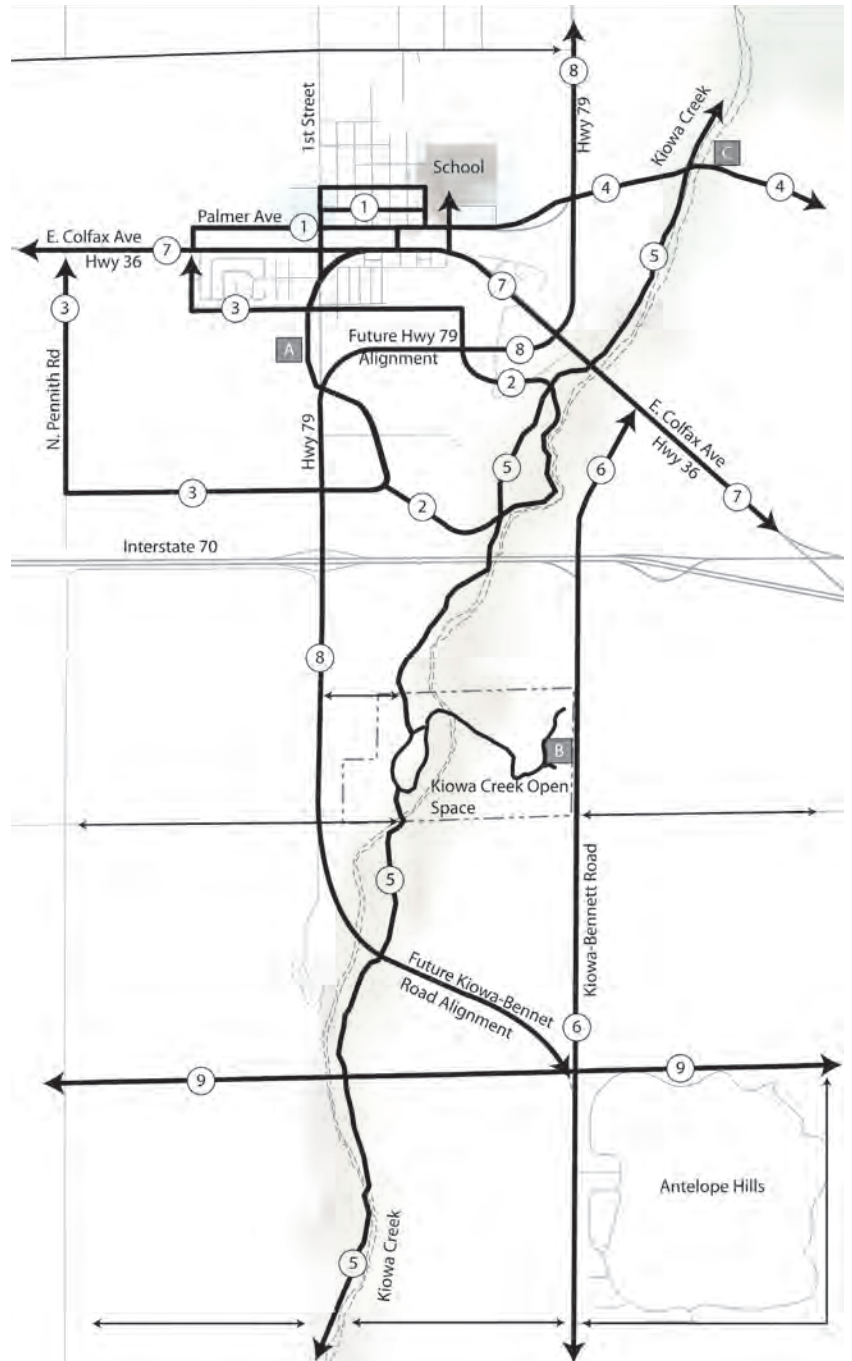


Figure 3.2 Proposed Regional Trail Network

## Trail Route Descriptions

The following trail descriptions provide details concerning trail routes, trail connections, opportunities and constraints.

### 1. Neighborhood-School Bike Route

This on street bike route provides a direct connection for the neighborhoods and the existing trail located south of the tracks to the residential neighborhood, current Town facilities, Trupp Park and the school campus north of the railroad line. This route will also include a designated location for users to cross the UP railroad tracks via a concrete walk adjacent to the paved roadway (see Figure 3.3).

#### Potential Trail Connections

- Bennett-Strasburg Trail (4)
- Watkins-Strasburg Bike Route (7)
- East Town Loop Trail (2)
- West Town Loop Trail (3)

#### Opportunities

- This route follows existing paved road corridors, thereby minimizing construction costs and allowing the Town to execute the initial phases of the trail network immediately.

#### Constraints

- This bike route will have at grade crossings for both US Highway 36 and the railroad creating potential conflicts with both motorized vehicles and daily trains.



Figure 3.3 Neighborhood-School Bike Route

## 2. East Town Loop Trail

This trail route will include a multi-use trail that is located within future open space and greenbelts. This will be a key trail link to connect the Downtown Trailhead/Parking Facility with Arapahoe County's Kiowa Creek North Open Space (see Figure 3.4).



Figure 3.4 East Town Loop Trail

### Potential Trail Connections

- Neighborhood-School Bike Route (1)
- Watkins-Strasburg Bike Route (7)
- West Town Loop Trail (3)
- Kiowa Creek Trail (5)
- Kiowa-Bennett Road/ SH79 Trail (8)

### Opportunities

- This loop trail will ultimately provide direct access from Downtown Bennett to Kiowa Creek allowing trail users to experience the unique riparian environment.
- There is potential to incorporate interpretive displays that enhance user understanding of the natural and/or cultural history of the area.

### Constraints

- Slopes within the 100-year floodplain may be in excess of 10%, potentially making it difficult and/or more costly to provide an ADA compliant trail.
- Private landowners may be reluctant to accommodate a trail across their land and agricultural areas.
- This trail connection may not be feasible until the planned open space/greenbelts are acquired or a trail easement is provided.

### 3. West Town Loop Trail

This roadside greenway trail will provide access to future development between I-70, US Highway 36 and State Highway 79. This trail will be accessible from the proposed civic center and downtown trail head (see Figure 3.5).

#### Potential Trail Connections

- Neighborhood-School Bike Route (1)
- Watkins-Strasburg Bike Route (7)
- East Town Loop Trail (2)
- Kiowa-Bennett Road/ SH79 Trail (8)

#### Opportunities

- Existing dirt roads may serve as the trail until future development or demand warrants the construction of the permanent trail.

#### Constraints

- Private landowners may be reluctant to accommodate a trail across their land and agricultural areas.
- The trail connection from Penrith Rd. to Highway 79 may not be feasible until a ROW or trail easement is provided.

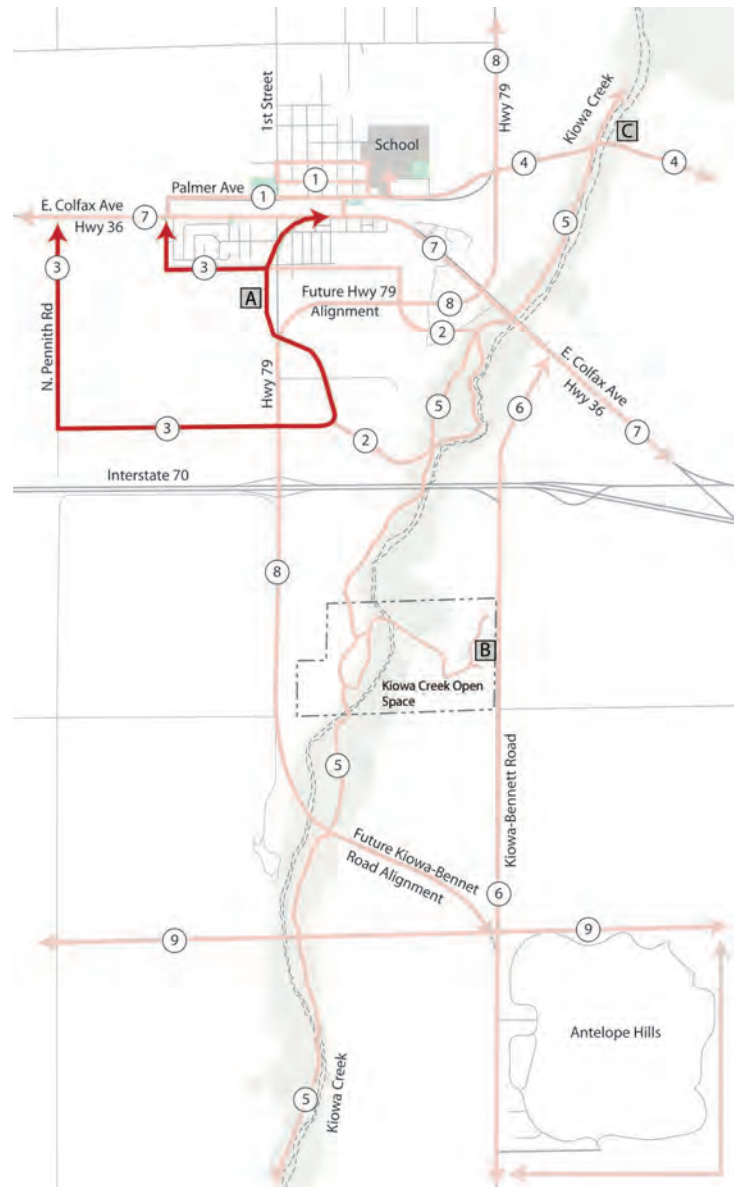


Figure 3.5 West Town Loop Trail

#### 4. Bennett-Strasburg Trail

This trail segment will provide a regional trail connection between Bennett and Strasburg; which is a community located approximately six (6) miles to the east. It will consist of a roadside greenway trail along Old Victory Road to a point where it intersects with the Watkins-Strasburg Bike Route. This trail will also be accessible from the proposed Adams County Trailhead that is planned near Kiowa Creek (see Figure 3.6).



Figure 3.6 Bennett-Strasburg Trail

#### Potential Trail Connections

- Neighborhood-School Bike Route (1)
- Kiowa Creek Trail (5)
- Kiowa-Bennett Road/ SH79 Trail (8)

#### Opportunities

- Plans to reroute Highway 79 and the potential for a bridge that spans the Union Pacific right of way may provide the opportunity for a grade separated crossing at the trail/highway intersection.

#### Constraints

- This trail will need to provide a safe trail crossing for both Highway 79 and Kiowa Creek.
- A trail easement or additional ROW may need to be acquired adjacent to Old Victory Road in order to accommodate the paved surface trail.

## 5. Kiowa Creek Trail

This trail will run adjacent to Kiowa Creek and will provide a connection from Bennett's Downtown to the Kiowa Creek Open Space, residential properties, and neighborhoods south of I-70. It is comprised of a Multi-Use Single Trail that transitions to a Split Trail between the Kiowa Creek North Open Space and US Highway 36. This trail will be accessible from both the Arapahoe County (B) and Adams County (C) Trailheads (See Figure 3.7).

### Potential Trail Connections

- Kiowa Creek North Open Space Trail
- Kiowa-Bennett Road/ SH79 Trail (8)
- Alameda Trail (9)
- East Town Loop Trail (2)
- Watkins-Strasburg Bike Route (7)
- Bennett-Strasburg Trail (4)

### Opportunities

- Aerial imagery shows existing soft surface trails that may be suitable for trail access prior to construction of the Multi-Use Trail.
- Approximately 1/2 mile of this alignment will cross public land (Arapahoe County Open Space), thus reducing ownership issues along this segment.
- The topography lends itself to trail development and flood plain corridor of the creek adds visual interest.
- The planned trail cross-section will be able to accommodate several user groups including equestrians.

### Constraints

- Currently much of the Kiowa Creek 100 year floodplain is private property consisting of multiple land owners; possibly making it difficult to achieve a continuous public trail access along the length of the creek.
- The Colorado Division of Wildlife has expressed concern from human-wildlife and domestic animal-wildlife conflicts in addition to concerns with issues arising from hunting activities along the Kiowa Creek.
- Alternative horizontal trail alignments may need to be investigated to achieve a continuous trail connection if current land owners are not willing to allow trail access.



Figure 3.7 Kiowa Creek Trail

- The Kiowa Creek Trail alignment will ultimately cross the interstate (I-70), two highways (US36 and Old Victory Road), the Union Pacific Railroad (UPRR) and the proposed Kiowa-Bennett Road alignment. A grade separated trail crossing will need to be provided for several if not all intersections. The Federal Highway Administration (FHWA), Colorado Department of Transportation (CDOT), UPRR, Adams County Department of Public Works (DPW) and Arapahoe County Public Works and Development are

the agencies that would need to be approached prior to upgrading existing underpasses.

## 6. Kiowa-Bennett Bike Route

This on-street Bike Route will run north-south along Kiowa-Bennett Road from the Antelope Hills Subdivision to US Highway 36. It will serve to provide access for users to the Kiowa Creek Open Space and the Watkins-Strasburg Bike Route (see Figure 3.8). As an alternative, additional user groups could be served by this trail route by constructing a multi-use trail for the trail segment between Antelope Hills Subdivision and the Kiowa Creek North Open Space.



Figure 3.8 Kiowa Bennett Bike Route

As an alternative, additional user groups could be served by this trail route by constructing a multi-use trail for the trail segment between Antelope Hills Subdivision and the Kiowa Creek North Open Space.

### Potential Trail Connections

- Watkins-Strasburg Bike Route (7)
- Kiowa Creek North Open Space Trail
- Kiowa-Bennett Road/ SH79 Trail (8)
- Alameda Trail (9)

### Opportunities

- This route follows the existing paved Kiowa-Bennett road which is owned and maintained by the Town.
- Discussions with Town residents revealed that this roadway is currently utilized by cyclist despite the lack of a paved shoulder; indicating the need for a dedicated bike route in this location.

### Constraints.

- The current pavement width of two traffic lanes lacks a shoulder and does not safely accommodate a dedicated bike route. Pavement will need to be extended on both sides to provide a sufficient shoulder width based on AS-SHTO and Arapahoe County requirements.
- Higher speed limits combined with commercial trucks that utilize this roadway may create conflicts with cyclist that share the roadway.
- The bridge over I-70 is narrow and does not currently have enough width to safely accommodate the proposed bike route. Improvements to the bridge will be costly and might delay the implementation of the trail segment north of Kiowa Creek Open Space.

## 7. Watkins-Strasburg Bike Route

This Bike Route will provide a regional connection from Watkins to Strasburg running east-west along the US Highway 36 Road corridor. It will consist of a signed bike route that transitions to a dedicated bike lane through the down-town core (see Figure 3.9).

### Potential Trail Connections

- West Town Loop Trail (3)
- Kiowa-Bennett Road/ SH79 Trail (8)
- Neighborhood-School Bike Route (1)
- Kiowa-Bennett Bike Route (6)
- Kiowa Creek Trail (5)

### Opportunities

- Since this route follows an existing highway, it already has a 'Shared Roadway' designation that can easily be upgraded to a Signed Bike Route with the implementation of shared roadway signs. Improving and widening the paved shoulder (especially within the Town limits) will improve the safety and convenience of both bicyclist and motorist.
- This route along with the other planned regional bike routes will all traverse through the town creating a hub and potentially an area destination for regional cyclists.

### Constraints

- As a state highway that traverses through the Town core, Highway 36 has posted speeds that range from 35-45 mph within the Town limits. The speed of traffic and the condition of the road shoulder may potentially limit use of this route to advanced or more confident riders.
- Existing highway segments through the Town do not include a paved shoulder that can accommodate a signed bike route. Pavement will need to be extended on both sides to provide a sufficient shoulder width based on ASSHTO requirements.



Figure 3.9 Watkins-Strasburg Bike Route



### 8. Kiowa-Bennett Road /SH79 Trail

This trail will run adjacent to the proposed SH79 alignment north of I-70 and the Arapahoe County 2035 Transportation Plan alignment of Kiowa-Bennett Road. It will consist of a roadside greenway trail to the south of the US Highway 36 intersection and a dedicated bike lane that transitions to a bike route to the north of US36. This trail will be accessible from the proposed Downtown Trailhead/Parking Facility (A) and will have three (3) grade-separated bridge crossings located at I-70, Kiowa Creek and the UP Railroad (see Figure 3.10).



Figure 3.10 Kiowa-Bennett Road/ SH79 Trail

#### Potential Trail Connections

- East Town Loop Trail (2)
- West Town Loop Trail (3)
- Kiowa Creek Trail (5)
- Watkins-Strasburg Bike Route (7)
- Bennett-Strasburg Trail (4)
- Kiowa-Bennett Bike Route (6)
- Alameda Trail (9)

#### Opportunities

- The planning effort for the roadway alignment is in the early phases and the trail design can be incorporated into the final roadway design. In addition land acquisition for the trail and roadway can be part of the same effort either within the ROW or as an adjacent trail easement.

#### Constraints

- The proposed road alignment traverses private property consisting of multiple land owners; acquiring the necessary ROW may take several years.
- This trail and bike route will likely be contingent on the construction of the proposed roadway alignments and is likely to be one of the later trail routes to be completed.

## 9. Alameda Trail

The Alameda Trail corridor identified in the Arapahoe County Open Space Master Plan will serve as one of the primary east-west routes south of I-70; ultimately connecting several of the eastern plain's linear riparian systems (see Figure 3.11).

### Potential Trail Connections

- Kiowa Creek Trail (5)
- Kiowa-Bennett Road/ SH79 Trail (8)
- Kiowa-Bennett Bike Route (6)
- Antelope Hill Subdivision Perimeter Trail

### Opportunities

- This planned trail corridor will ultimately connect the eastern plains communities with the metro area trail network.
- Initially, this trail will serve as one of the East-West access corridors connecting current residents to the Kiowa Creek Trail and Open Space.
- The Antelope Hills subdivision has an existing perimeter equestrian trail easement; potentially serving as the first segment within this trail corridor.

### Constraints

- Private landowners may be reluctant to accommodate a trail across their land and agricultural areas.



Figure 3.11 East-West Access Corridors

### East-West Access Corridors

East-west trail connectors will need to be provided as the Town continues to develop and grow; especially south of I-70. These trail connections will provide access to the Kiowa Creek Trail for existing and future residents and should occur at mile or half mile increments (see Figure 3.12).



Figure 3.12 East-West Access Corridors

### Trailheads and Access points

Trailheads are critical to the trail network system. The trailhead serves as a link between various transportation systems and the trail network while establishing access points that are accessible to everyone. Trailheads should be highly visible and should take into consideration the diversity of trail users and the overall function of the specific trail. For example, a trailhead with access to an equestrian path might also accommodate trailer parking and access to drinking water for horses. Trailheads provide the necessary useful information to tell the user where they are along certain trails, where specific trails lead and more importantly, how to get there.

### Primary Access Point

Trailheads that serve as a primary access point will be the most complete of all the trailhead types discussed in this section. All three trailheads identified in the Regional Trail Network are primary access point trailheads. They will serve a diverse user group with a high volume of trail users and should be established near commercial developments, transportation nodes, civic centers or public open space destinations. In general a primary access trailhead will serve as a gateway to the trail network and should include an intricate system of parking, future transit access and trail information.

When possible it will be necessary to explore shared used parking options with other parking facilities. Parking for this type of trailhead should be provided in a specific parking lot configuration, rather than shoulders of roadways and may either be paved, unpaved or a combination of both.

### Required Amenities

- Parking
- Water fountains

- Trash Receptacles
- Lighting
- Bike Racks
- Benches
- Trail Signs/ Maps

### **Recommended Amenities**

- Restrooms
- Public Art
- Playground
- Picnic Shelter

### **Secondary Access Point**

Trailheads that serve as a secondary access point include simple pedestrian and bicycle entrances with parking available near adjacent streets, neighborhood parks or schools. These access points are generally located at junctions where streets bisect trails, or where trails have access but no parking. They should be readily accessible by a variety of trail users, visible from the street and fit within the environment of the neighboring development.

### **Required Amenities**

- Trail Signs/ Maps
- Lighting
- Benches

### **Recommended Amenities**

- Trash Receptacles
- Water fountains
- Bike Racks

### **Tertiary Access Point or Trail Junction**

Tertiary access points within the trail network will occur when trails spur off of one another. They serve to inform the user of intersecting trails which leads to a safer trail environment and a cohesive trail network. At a minimum a tertiary trail access will consist of a sign with trail name and

directional arrows.

### **Required amenities**

- Trail Signs
- Lighting

### **Recommended amenities**

- Trash Receptacles
- Benches

### **Trail Amenities**

Consideration of trail amenities should occur at the time a specific trail route is developed. The following are recommendations with regards to placement of specific trail amenities.

- Benches should be placed at major trailheads and at waiting/resting areas.
- Bike racks should be placed at locations where cyclists are likely to dismount.
- Bollards should have reflective surfaces, be removable and be placed where motor vehicles have potential access to trails.
- Delineators should be used in place of guard rails and in areas where the trail is adjacent to water features or slopes in excess of 1:4.
- Distance markers should be placed at the beginning of major trailheads and at locations where there is high recreational use. The markers should be placed at ½ mile to 1 mile intervals otherwise.
- Guard rails/ fences should be a minimum height of 42" and used where there is more than 30" vertical drop-off at edge of the trail shoulder.
- Informative areas should be located at major trailheads and parking areas.
- Maps should be placed at informative areas or at other major/minor trail junctions.
- Signage adjacent to roadways should be in accordance

with the Federal Highway Administration’s Manual on Uniform Traffic Control Devices

- Trash receptacles, as well as provisions for recycling, should be provided at informative areas of trailheads.
- Water fountains should be placed at some informative areas, as well as some waiting/resting areas.

### Trail Maintenance

Maintenance of the trail network will be necessary for the sustainability and longevity of the trail. Prior to the construction of any trail segment, careful consideration should be given to the financial responsibility of maintaining the trail network. Selected trail furnishings and amenities should be consistent throughout the network to accommodate efficiency in repairs. They should also be durable enough to withstand generations of public use and exposure to the elements. Seasonal and weekly maintenance including traiside mowing, snow removal, trash collection and surface repairs will require equipment and valuable man hours.

### Trail Classification

The trails within the Regional Trail Network have been grouped into two (2) categories: Shared-Use Trails and Bike Routes/Bike Lanes. The specifics for each category follows:

#### Shared Use Trails

Shared use paths will accommodate multiple user groups including pedestrians, cyclists, and equestrians and are typically located within open space corridors or adjacent to roadways with a designated landscape strip, tree lawn, tree grates or landscape buffer separating the trail path from the road edge. Roadside greenways, detached sidewalks, and multi-use trail classifications are included in this group. (Refer to Figures 3.13-3.15 for typical cross sections)

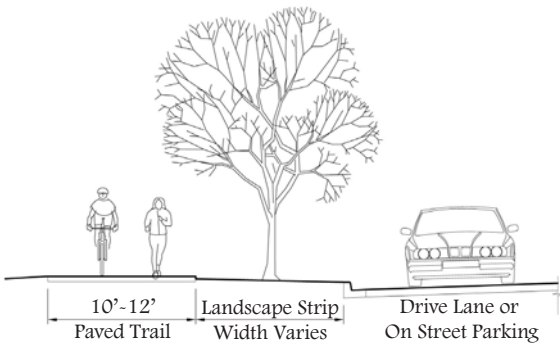


Figure 3.13 Roadside Greenway Trail/ Sidewalk

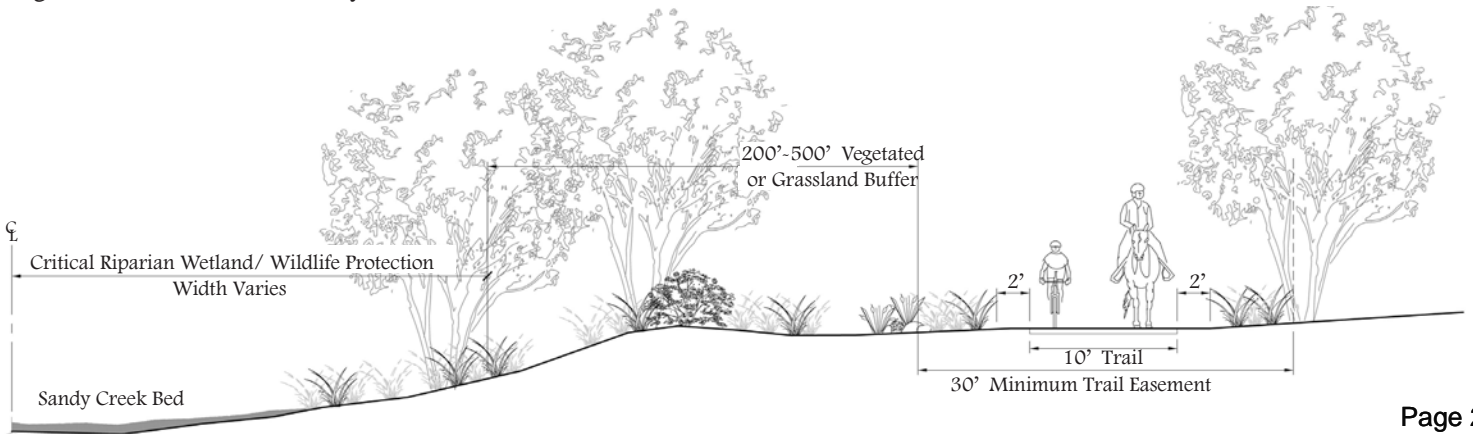


Figure 3.14 Multi-Use Trail

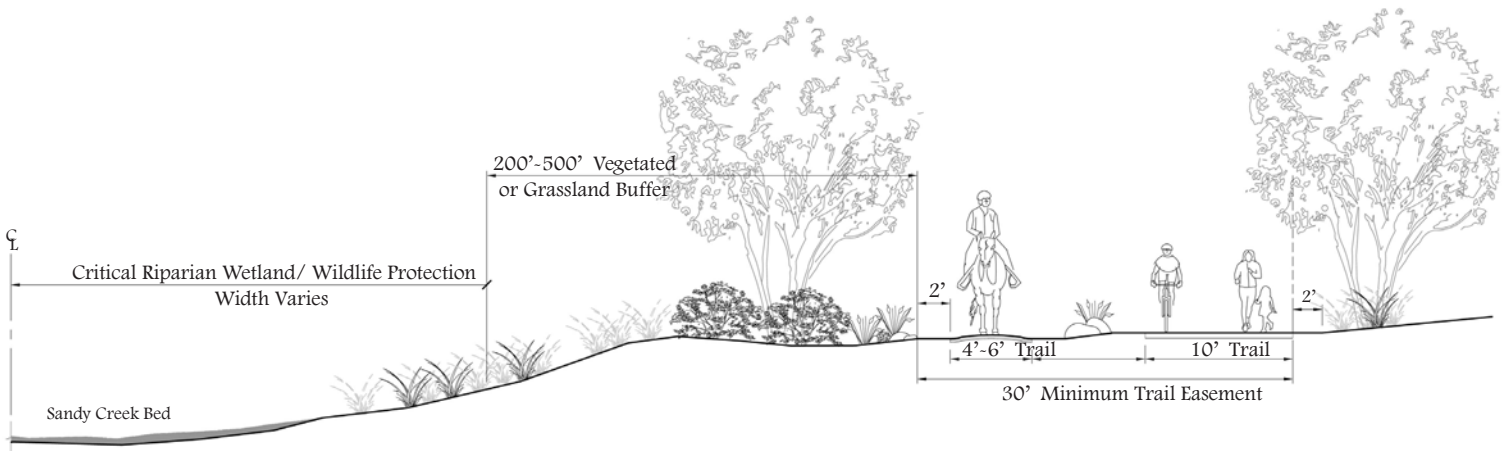


Figure 3.15 Multi-Use Split Trail

### Shared Use Trail Design

	Roadside Greenways & Sidewalks	Multi-Use Split Trail		Multi-Use Single Trail
		Paved	Unpaved	
Width	10'-12'	10'	4'-6'	8'-10'
Surface	Concrete / Asphalt	Concrete/Asphalt	Gravel, Crushed Stone	Urban-Concrete/Asphalt Rural-Gravel, Crushed Stone, or compacted natural surface
Vertical Clearance	10'	10'	10'-12'	10'-12'
Trail Shoulder Width	2'	2'	2'	2'
Maximum Slope	8% (5% preferred)	8%	8%	8%
Cross Slope	2%	2%	2%	2%

### Bike Routes & Bike Lanes

Bike lanes and bike routes will accommodate a single user group; the cyclist. They are on-road routes including local roads and highways. Design requirement will vary based on roadway grade, speed limits, and traffic volume. Bike lanes and bike routes shall be in compliance with AASHTO requirements. (Refer to Figures 3.16-3.17 for typical cross sections)

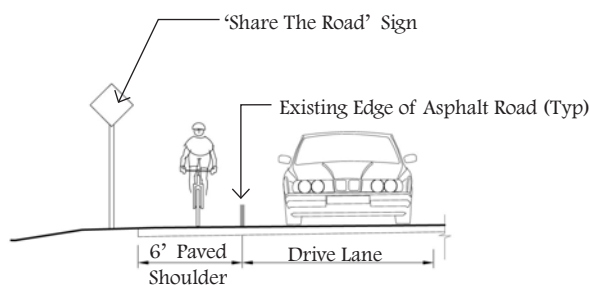


Figure 3.16 Signed Bike Route

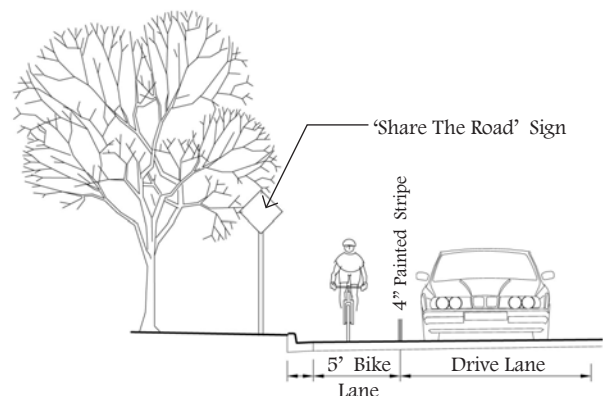


Figure 3.17 Dedicated Bike Lane

## Trail Intersections

The Bennett Regional Trail Network identifies several locations where trail routes will intersect another transportation corridor or natural feature including roadways, the UP Railroad, and Kiowa Creek. Intersections should provide the trail user a safe environment to cross other transportation routes. Two primary types of intersection crossings have been identified in the Bennett Regional Trail Plan: 'At-grade' and 'Grade Separated'.

### At-grade

An at-grade trail crossing will be at the same level as the roadway or rail line as shown in Figure 3.18 & 3.19. At-grade intersection crossings require both the motorist and the trail user to be aware of the potential conflicts and the risk of collisions. Methods of traffic control like signage, painted cross walks, flashing lights, illumination, full stop intersections, reduced speed limits and high-profile crossings (or hump/speed bumps) should be considered at locations where a trail users will cross roadways or rail lines.

### Grade Separated Crossings

Some of these intersections have been selected for a grade separated crossing where the trail will cross above via a bridge as shown in Figure 3.20 or below via a trail underpass as shown in Figure 3.21. Additional grade separated crossings may be necessary as the regional trail plan develops to provide trail users safe and convent intersection crossings.



Figure 3.18 Railroad/Trail Crossing



Figure 3.19 Highway/Trail Crossing



Figure 3.20 Trail Bridge



Figure 3.21 Trail Underpass

## 4. Conclusion

Based on community input from questionnaires and community meetings, there is a strong need for additional local and regional trail routes. The construction of new trails will provide additional transportation and recreational choices for residents and adjacent communities in Adams and Arapahoe Counties. Highest priority should be given to trail routes that provide safe travel routes from residential neighborhoods to the school and between neighborhoods and commercial corridors especially those divided by I-70.

## Recommendations

- Consider planting drought tolerant deciduous shade trees along the existing SH79 trail at a spacing of one (1) tree per 40 linear feet of the trail.
- Utilize volunteer community members to plant trees.
- Focus efforts on constructing segments of trail that will connect Antelope Hills Subdivision, Kiowa Creek Open Space and Bennett's Downtown.
- Implement additional trail segments as funding becomes available or when development and infrastructure improvements take place.
- Consider modifications and/or upgrades to existing facilities to implement these initial trail segments. Begin discussions with landowners along the Kiowa Creek to negotiate trail easements. With upgrades to the Converse Road Bridge & Kiowa-Bennett Road Bridge over I-70 not likely to happen for several years, the safest and likely most cost effective method to get trail users across the interstate will be under the I-70 Bridge that spans the Kiowa Creek floodplain.
- Continue seeking annual grant funding from the respective County Open Space programs and organizations like the Great Outdoors Colorado (GOCO) for trail development & construction.
- Prior to design and development of the Kiowa Creek Trail, additional detailed site information will be needed.
- Plan for the costs of Topographic and Boundary Surveys in addition to environmental studies that will identify potential impacts of trail routes associated with critical wildlife habitat, established wetlands and riparian areas.
- Utilize and upgrade as necessary existing roadways to provide safe access for bicyclist.
- Work with CDOT to improve Kiowa-Bennett Road and the bridge over I-70 as a safe on-street bike route.
- Work with landowners along Kiowa Creek to preserve floodplain, agriculture lands and the riparian environment.

- Work with adjacent communities and counties to pursue development of proposed regional trail routes.
- Pursue with Adams County the Kiowa Creek Trail link from I-70 north to the proposed Adams County Trailhead
- Pursue with Arapahoe County the Kiowa Creek Trail link from I-70 south to the Kiowa Creek North Open Space, continuing on to connect with the recently acquired Kiowa Creek South Open Space at the southern county boundary.
- Encourage future developments that will have an impact on the existing I-70/Converse Road Bridge to contribute funds for future bridge improvements that incorporate a safe on-street bike route.

## Final Thoughts

The Bennett Regional Trail Network will improve the connectivity between the two sections of Town divided by I-70. It will also serve as a conduit for regional access between Adams and Arapahoe Counties. Serving as an alternative mode of transportation and providing additional recreational opportunities, the trail network will be an invaluable resource to the town, adjacent communities and the counties.

The five (5) month planning process allowed residents to shape the outcome of the proposed trail network. The community has shown an interest in the development of local and regional trail routes and should continue to be used as a resource as the project progresses. The Regional Trail Plan should be used as an evolving tool that is modified as the town continues to grow and as proposed trails are constructed.



# The Town of Bennett Downtown Planning Study

December 2010



Prepared By  
Kendrick Consulting Inc.  
Kora Design  
Land Art  
TransEng



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# 1. Planning Process

## Brief Description of the Project

The Town of Bennett initiated the Downtown Planning Study in order to analyze and explore future possibilities for the historic center of Bennett. Several planning efforts converged to facilitate this study which includes: 1) SH79 realignment through Town, 2) downtown land use study, civic center development, and overlay district, 3) a regional trail plan, and 4) community parking facility.

## Background Plans & Studies

Bennett has two major state highways that bisect the Town center and historic retail corridor of Town. In particular SH79 is a primary agriculture and commercial trucking route that currently zigzags through the Town core. The large truck and trailer circulation through Town presents several undesirable conditions including traffic congestion, limited and/or undefined pedestrian circulation routes, and an increased noise and emissions. In 2007, a Board initiated transportation study was completed which analyzed

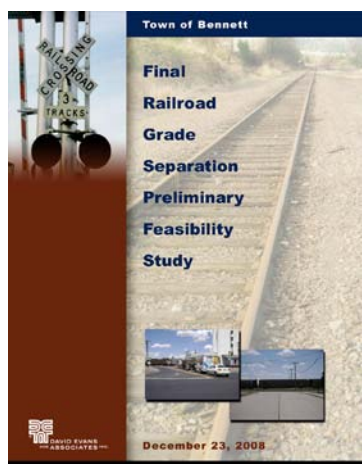


Figure 1.1  
Railroad Grade Separation Study

four separate scenarios for rerouting SH79 through Town in order to relocate the large truck traffic out of the historic commercial center along E. Colfax Avenue. The preferred alternative alignment was identified through public forums conducted in 2008. This new route altered the transportation system and impacted land use and development within the Town's historic center. The impacts of these changes needed to be evaluated and better understood to capture future possibilities for the Town center. One of the objectives of the Downtown Planning Study was to analyze the impacts of these changes.

In early 2009, the Town completed a Master Plan for Parks, Trails and Open Space. One of the recommendations of the plan was a regional trail system that would

include a connection from the Antelope Hills subdivision to the historic center of Town. In 2010, the Town initiated planning for the regional trail system and was awarded grants from Arapahoe and Adams Counties Open Space programs. The timing of project funding allowed the trail planning to be included in the larger Downtown Planning Study.

Additionally in 2010, a partnership was formed with Colorado State University to implement a grant to design a civic building for housing the fire district and Town center facilities in a new location more central to the Town center. This new civic center location was within the Downtown Planning Study boundaries and strongly influences the Study area.

Finally, in 2010, the Town was awarded a grant from the Denver Regional Council of Governments to look at a community parking facility that could support commuters along the I-70 corridor traveling into the metro area. As the other planning influences converged, this parking lot quickly became a multi-modal parking facility that could address shared parking at a location within the redesigned and refocused Downtown Planning Area.

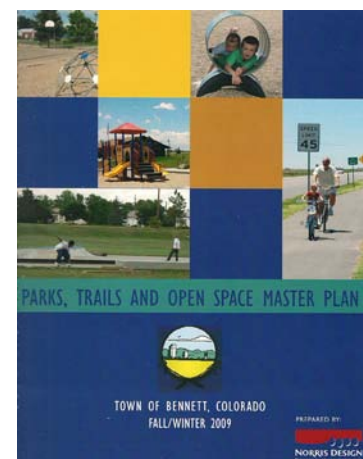


Figure 1.2 Parks , Trails & Open Space Master Plan

## Project Approach

With the foresight of Town staff and elected leadership, a coordinated planning effort was possible benefiting the following projects:

- State Highway 79 Realignment
- The Bennett Regional Trail Plan
- Commuter Parking Facility Development
- Downtown Land Use Study
- Civic Center Development

With this approach, local and adjacent community residents of the I-70 corridor would have an opportunity to comment and guide the progress of each project in one effort. This allowed the planning team to identify new opportunities including potentially shared facilities.

The Downtown Planning Study proposes a vision and framework through which the Town of Bennett can address future growth while ensuring that the voice of the community is recognized. It offers an organized look and recommendations for the Town as they embark on development and improvements to the Town infrastructure. It should serve as a visionary tool as the Town navigates future public facilities, private development, and the transportation and recreation needs of the community. Details and recommendations from each planning study are in the following sections.

## Planning Timetable

Town of Bennett Downtown Planning Study - Implementation & Timeline		11 May-10	May 15 -Mid June, 2010	Late June, 2010	Early July, 2010	Late July, 2010	Early August, 2010	Mid August, 2010	Late August, 2010	Early September, 2010	Mid Sept., 2010	Late Sept., 2010	Mid Oct., 2010	Late October, 2010	November, 2010
Team Lead															
Approval to Move Forward	Stuart McArthur														
Develop Background Data/Mapping/Transportation/Infrastructure/Zoning	MK/CS/KP														
Staff/Team Coordination meetings - scheduled as needed, generally in between public meetings.	Team		Review/plan		Review/Prepare		Review/Prepare		Review/Prepare		Review/Prepare				
Town Hall Meetings - State of Planning Progress	MK/CS/KP/Staff			#1 Initial						#2 Middle		#3 Extra		#4 Final	
Develop Alternative Scenarios x3	CS														
Steering Committee Meetings	Team				#1		#2		#3		#4 (if needed)				
Revise Alternatives	CS				#1		#2		#3		#4 (if needed)			Finalize Plan	
General Communication Outreach - website, newspaper, facebook, etc. (Town hall meeting will assist in determining the best approaches)	Staff/MK		Notification		Expand		Notification/Update		Update		Notification	Update		Update	Final Communication
Contact Property Owners/Stakeholder Meetings as needed - Special Districts, Individual Agencies, Businesses	MK/Staff/SM				Initiate Contact		Schedule Meetings		Meetings			Meetings			

Figure 1.3 Planning Study Timetable

## Planning Team & Responsibilities

The selection of the planning team was facilitated by Stuart McArthur, Town Administrator, and included consultants with expertise in land planning, transportation engineering, community character development, and trail planning.

The planning team was lead by Project Manager and Land Planner Melissa Kendrick of Kendrick Consulting Inc. Her responsibilities included establishing a project timeline, conducting community meetings and activities, team coordination,

analysis of zoning and land use components, and contributing to the final 'Downtown Planning Study' document.

Craig Schreiber of Land Art provided conceptual design services including graphics, images, and land use plans. This collection of graphic illustrations and planning concepts were instrumental in communicating the team's ideas while documenting the evolution of this planning effort. Mr. Schreiber's concepts and ideas were used as a tool to initiate important discussion with residents and stakeholders about land use, Town character, circulation patterns, and main street elements.

Karl Packer, P.E., PTOE of TransEng, Inc. was the Transportation Engineer for this project. Karl evaluated the final alternatives alignment for SH79 presented in the "Railroad Grade Separation Preliminary Feasibility Study" to determine the one preferred alignment. Using the preferred alignment and the proposed land use concepts, Karl conducted a traffic impact evaluation to offer direction for the future roadway network improvements, projected intersection control, and required roadway cross sections.

Brea Pafford of Kora Design was responsible for the regional trail component of this project. She incorporated requirements established by the open space grants and presented proposed trail alternatives as part of the planning and design process. Brea also provided coordination and technical assistance in the preparation of this document.

### Community Input (Process & Summary)

The planning process included three (3) Town meetings and four (4) steering committee meetings. In an effort to reach a broader section of the community, the second Town meeting was conducted via a booth at the annual Town Harvest Festival. Elected officials joined the planning team to answer questions and discuss the proposed plans with dozens of citizens visiting the fair. The Town calendar which is posted on the Town's website was utilized to convey important information and dates; and the newspaper reported progress throughout the process. In addition to community input, staff met with organizations including the Chamber of Commerce, Adams County Mayor and Managers, REAP, Arapahoe and Adams County Long Range Planning Departments, and the Denver Regional Council of Governments to present ideas of the downtown planning study.

Other input and data were collected via questionnaires and surveys on several topics including parking, commuting, and trail use. A windshield survey was done to try and capture those commuters utilizing a local parking lot as a parking facility.

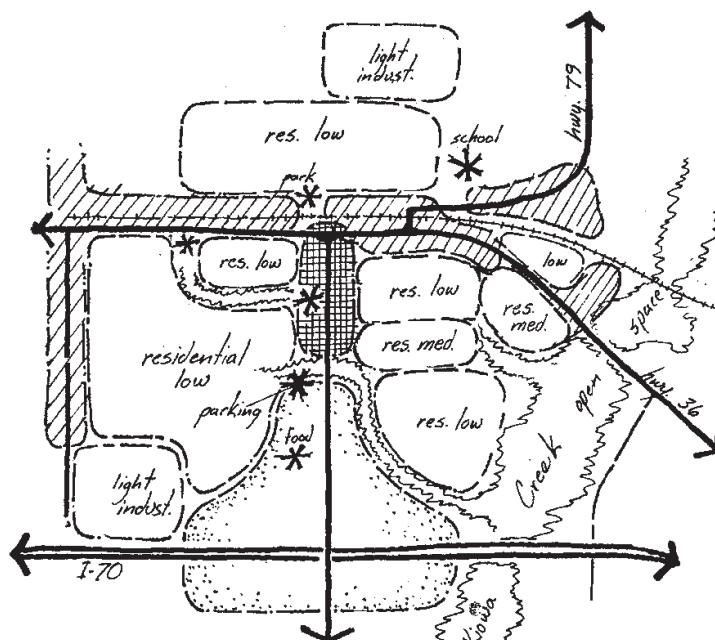


Figure 1.4 Land Use Concept Study

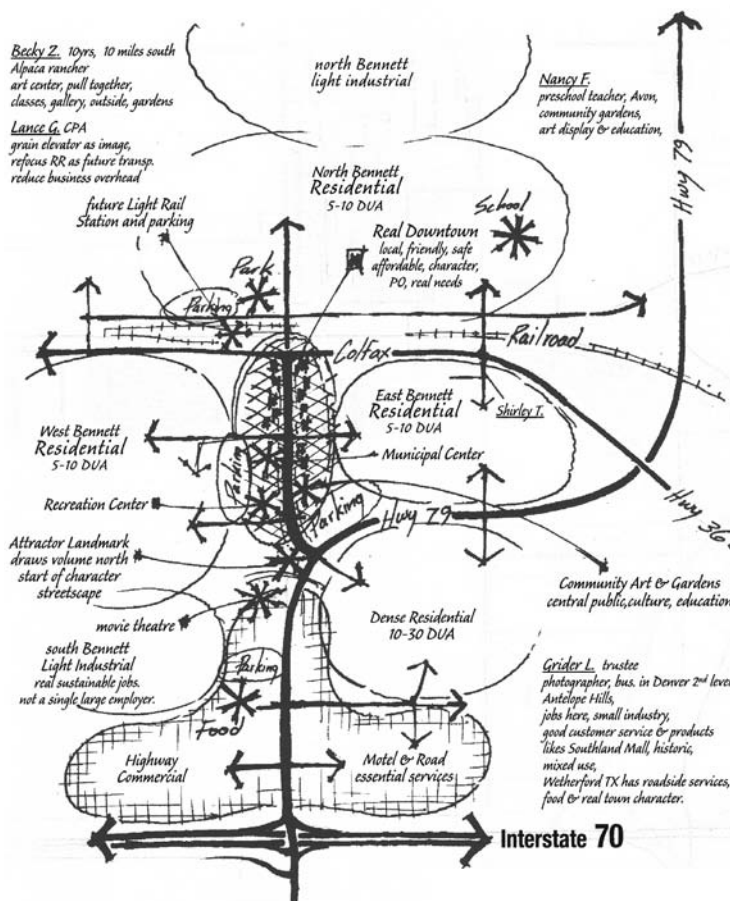


Figure 1.5 Community Preferred Downtown Bennett Concept Plan

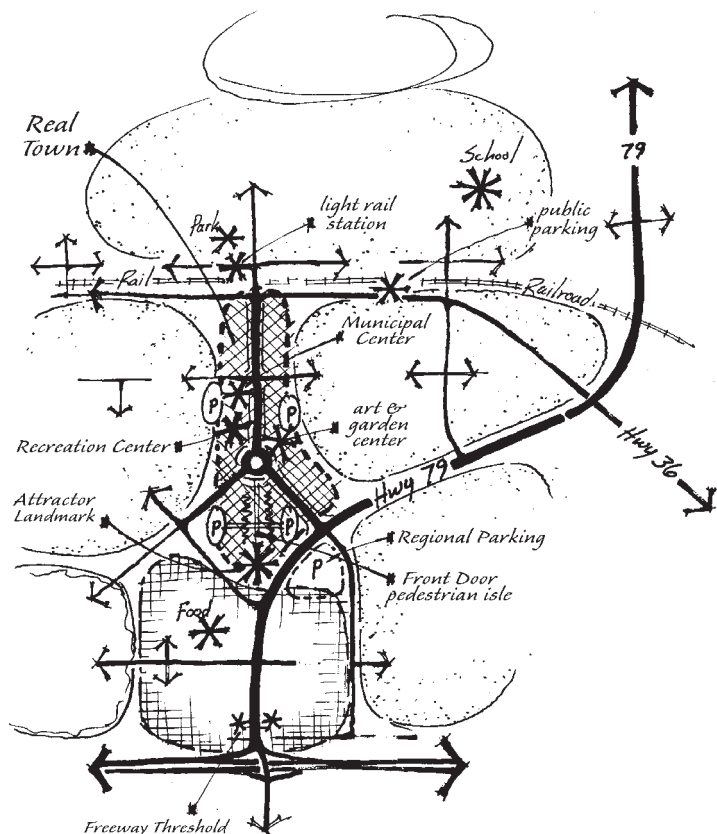


Figure 1.6 Downtown Bennett Concept Plan Alternative

## Guiding Principles

The following guiding principles were developed as a collaborative effort between the planning team, elected officials, and community members. These principles were constantly referenced by the team as the planning process developed.

- Create a downtown identity as the Town will inherently grow.
- Protect and enhance the historic residential and commercial center of Town.
- Identify opportunities for a high-intensity, pedestrian-oriented, and mixed use growth through a balance of retail, business, civic, and residential opportunities.
- Provide trail connections throughout the Downtown core that increase accessibility for residents and visitors of Bennett while protecting the natural environment.
- Improve the transportation network through safety improvements that are well integrated with land use and development opportunities.
- Reduce vehicular travel by providing the infrastructure to support ride sharing opportunities.



## 2. Transportation Analysis

### Introduction and Purpose

The purpose for the transportation analysis associated with the Bennett Downtown Planning had two goals;

- First to review the State Highway 79 “Railroad Grade Separation Preliminary Feasibility Study” alignment alternatives and determine a preferred alignment.
- Second to provide conceptual transportation infrastructure needs for future growth by using the preferred State Highway 79 alignment to project traffic volumes associated with the development of Bennett Downtown area.

Town. Trains crossing require lengthy stops for motorists who have no alternative routes. Furthermore, State Highway 79 provides Bennett and the areas north of Bennett with a vital access to I-70 and US36 (Colfax Avenue). Additionally, State Highway 79 carries over ten percent truck traffic, which generally traverses through the heart of Town. This has led the Town of Bennett to look for an alternative route for State Highway 79.

The Town of Bennett commissioned the “Railroad Grade Separation Preliminary Feasibility Study” (The Feasibility Study) which was completed by David Evans and Associates Inc. in December 2008. The Feasibility Study goal was to find conceptually feasible locations of roadway grade separated crossings of the UPRR tracks in and near Bennett. The crossing location alternatives were evaluated based on design and construction factors, environmental constraints, community impacts, mobility, and safety. The Feasibility Study concluded with providing four (4) conceptually feasible alternative locations. Further reviews of these alternatives were conducted with this study. Each alternative was taken to the public meetings and discussed with the public. The four alternatives included:

#### “The Western Alignment”

The Western Alignment improved 38th Avenue and crossed the tracks west of McKinley Drive and curved back to intersect with SH79 south of the Recreation Center. This alternative added a significant amount of roadway to the network and was anticipated to increase travel times. The alternative did allow for the trucks to be routed further from the center of Town. During public meetings, the Western alignment was the second most popular alternative with residents.

#### “West- Central Alignment”

The West-Central Alignment crossed over the Union Pacific tracks at 1st Street / Converse Road. The alignment required the improvement of a portion of 38th Avenue. This

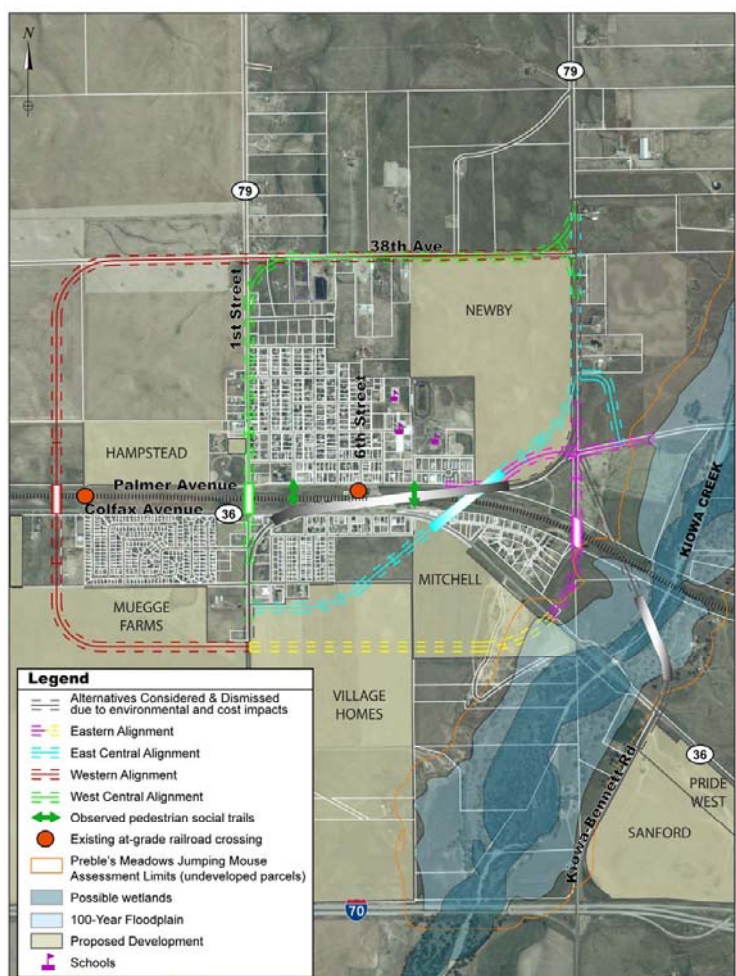


Figure 2.1 SH79 Alignment Alternatives by David Evans & Associates

### SH79 Alignment

The State Highway 79 alignment winds through Bennett, leading to an at-grade crossing of the Union Pacific Railroad (UPRR). Generally, the UPRR tracks divide the

alternative provided an efficient and logical transportation connection and utilized the greatest portion of SH79 south of US36. This alignment received a significant amount of public concern and was not popular with residents due to the inherent introduction of the heavy vehicle traffic onto 1st Street directly adjacent to several blocks of residential homes, a retirement community, a church, and a park. This alternative had potentially the highest community impacts.

**“The East Central Alignment”**

The East Central Alignment was removed from further study due to the high costs, community impact, and the lack of a direct connection to US36. The route necessary to access US36 could have caused significant driver confusion and added significant delays. The alternative was also one of the higher cost alternatives, having a bridge span that had to cross at an acute angle to the tracks, then over US36. Although this alternative was included with the finalists, it was determined by the Feasibility Study that the East Central Alignment was likely not feasible and was not recommended for further analysis.

**“Eastern Alignment”**

The Eastern alignment crosses over the tracks at the Kiowa Bennett Road alignment. South of the UPRR tracks, the roadway curves to intersect US36. This alignment provided the most direct route to connect with US36. South of US36, this alternative suggested an optional road curving east-west to connect to SH79 near the Bennett Recreation Center.

After consideration of each alternative, and with three public meetings to gather input from the community, only the Eastern Alignment grade separated crossing met the minimum feasibility evaluation criteria and provided these additional benefits:

- Provide opportunity for a direct connection with US36 after crossing UPRR;
- Utilize existing right-of-way for vehicular crossing located south of Old Victory Road and north of the UPRR

tracks;

- Limit truck traffic to outside of the residential influence areas of Bennett;
- Maintain relatively high speeds with the preferred alignment between Old Victory Road and US36;
- Create opportunities for development corridors with this alignment;
- Continue SH79 as a through-road for safety and efficiency.

**Eastern Alignment Modification to Optional Connection**

Further considerations of the Eastern Alignment include discussions of SH79 continuing south of US36. The segment of the Eastern Alignment south of US36 was projected in the Feasibility Study to be an optional connector roadway, not an extension of the State Highway.

In discussions with the engineers for the Feasibility Study, the primary purpose of this optional roadway connector alignment was to respect boundaries of preliminary land planning that had occurred south of the optional connection roadway. However, development of this planning area is no longer valid. So this constraint is eliminated because the plan has expired.

A number of variations of the southern connection were examined during the Downtown Planning Study including a sweeping radius following the western edge of Kiowa Creek floodplain, and an alignment south to curve into a “Tee” intersection with SH79 at Market Avenue. These variations were determined to be infeasible due to their significant impacts to existing homes and structures or infringements within the floodplain.

A logical extension of SH79 can be envisioned using a modified alignment of this optional connecting roadway segment and using one thousand foot radius curves into the existing SH79. The conceptual alignment of this

roadway would allow for a posted speed of 40 MPH. The Revised Optional Eastern Alignment is depicted on Figure 2.2.

### Existing Roadways and Major Transportation Network Components

The Bennett area major roadway transportation network generally consists of two east-west roadways and one north-south roadway. The Union Pacific Railroad Company (UPRR) freight train tracks run east-west through Town and provide a limited number of at grade crossings.

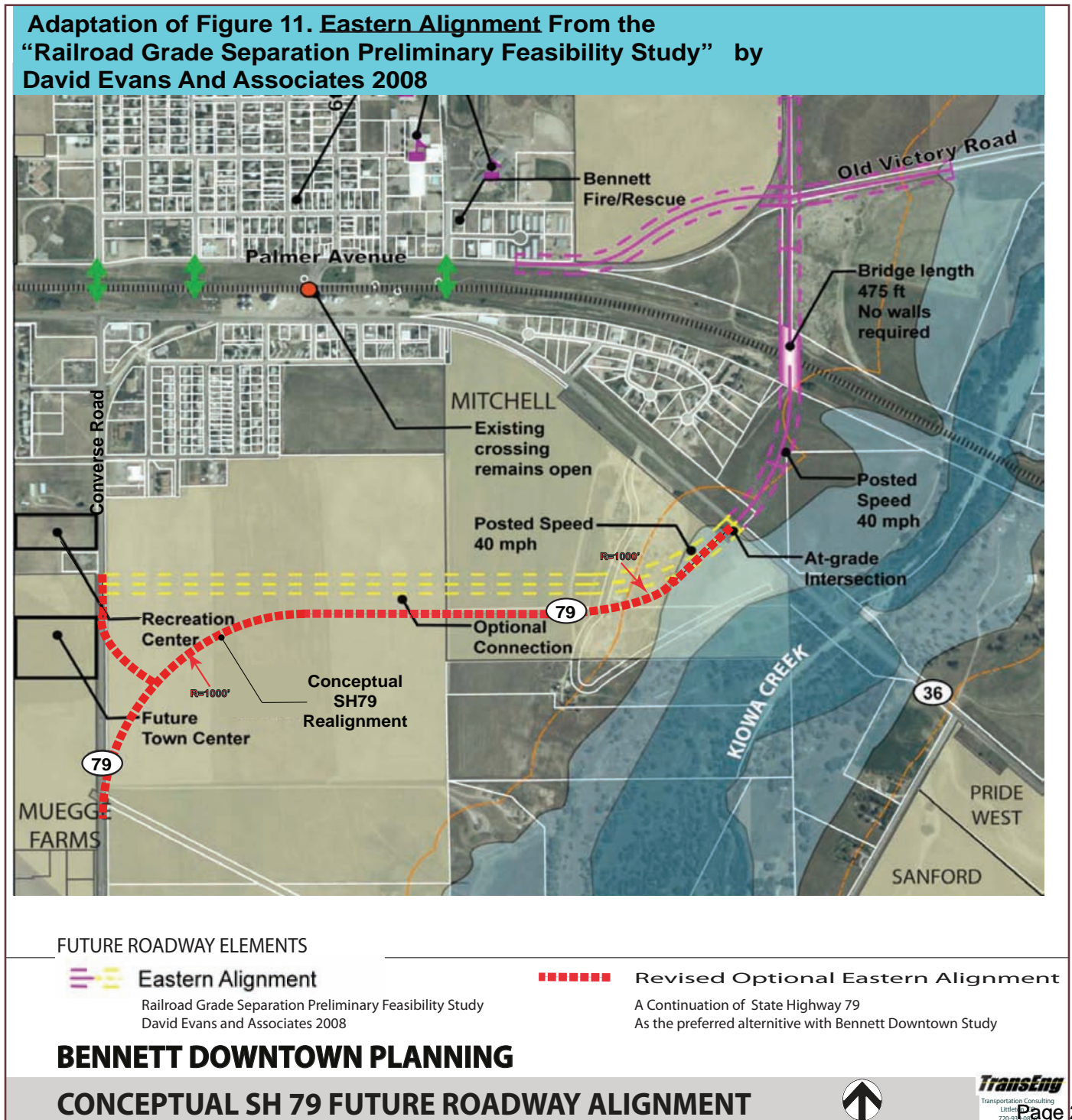


Figure 2.2 SH79 Proposed Alignment

### US36 (Colfax Avenue)

US36 is an east-west state highway generally one and a quarter miles north of I-70 through the center of Bennett. US36 has over 200 miles of continuity connecting from the Kansas state line to Rocky Mountain National Park, but regionally, US36 provides a connection between the nearby communities of Byers, Strasburg, and Watkins. In the area of Bennett, US36 generally runs parallel to, and just south of, the Union Pacific Railroad Company (UPRR) freight train tracks. US36 is posted 55 MPH just east and west of Bennett and 35 MPH through Town. US36 in this area is categorized by Colorado Department of Transportation as a “NR-B” (non-rural arterial) State Highway. Colfax currently carries an average daily traffic (ADT) of about 5,740 vehicles per day between Adams Street and Converse Road.

### UPRR Freight Train crossings

Access from across the tracks occurs in two (2) locations within the Town of Bennett. An at-grade crossing occurs at Palmer Street (West of McKinley Drive) and another at-grade crossing occurs on Adams Street (State Highway 79). Both locations include crossing gates and lights.

### Interstate 70

I-70 is a four (4) lane east-west interstate highway which locally connects the greater metropolitan Denver area with Bennett and the eastern plains communities. A full interchange exists with stop sign controlled intersections at SH79 (Converse Road). The existing interchange bridge over I-70 consists of one travel lane in each direction (approximately a 26 foot deck). All ramp interchanges consist of a single lane approach. Interstate 70 is posted 75 MPH near the Converse Road Interchange

### State Highway 79

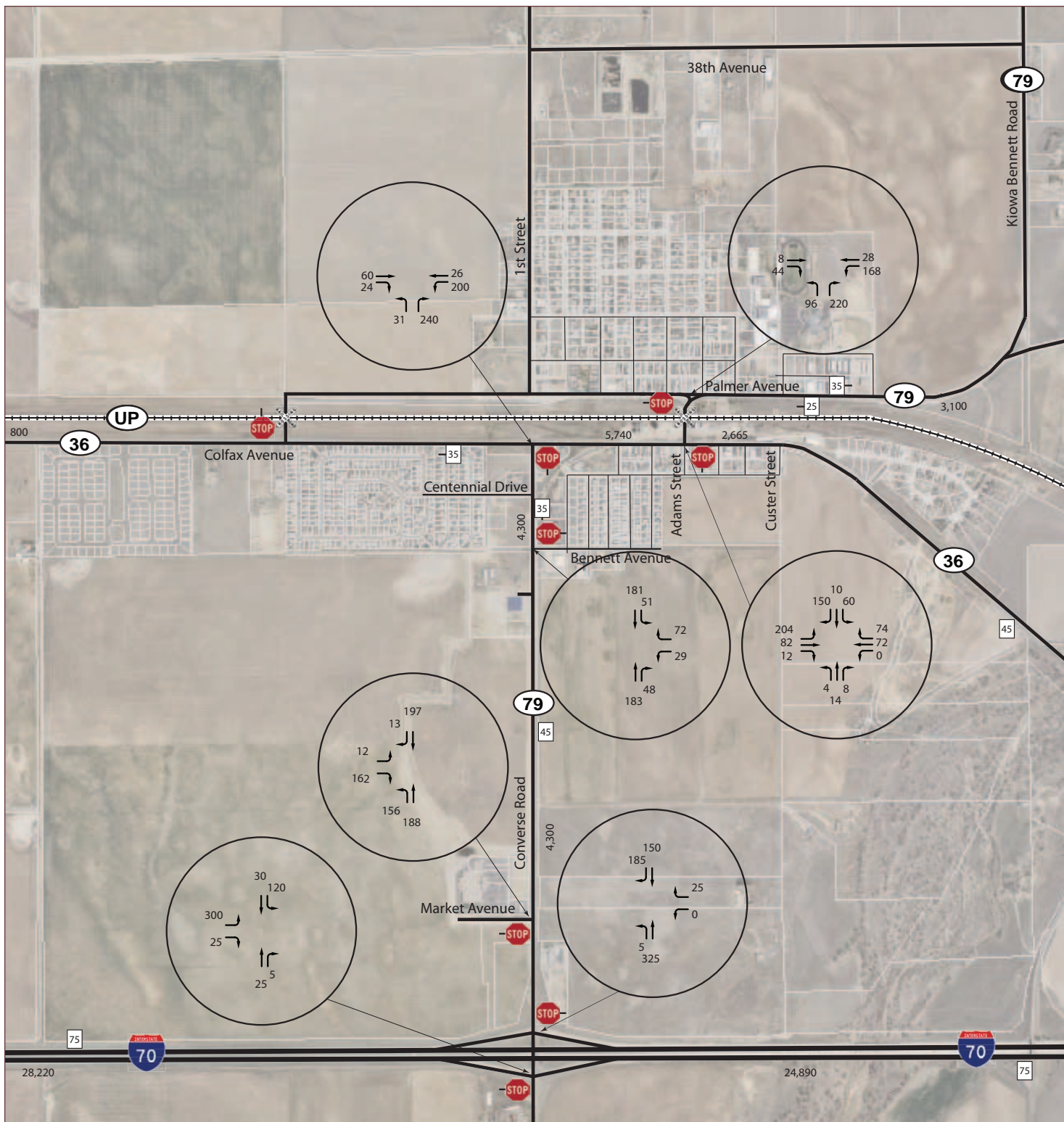
SH79 is a north-south state highway that generally bisects Bennett. SH79 connects from I-70 north along Converse Road to US36, then overlaps a section of the east-west US36 corridor, then travels north-south along Adams

Street and has free movement to curve to Palmer Avenue and curve to continue north-south along Kiowa-Bennett road to Keensburg and State Highway 52. Within the Bennett area, SH79 consists of two (2) travel lanes with additional turn lanes available at most intersections. Roadway speeds vary from 45 MPH near the edge of Town along the Kiowa Bennett Road, to 25 MPH along the Palmer Ave. and Adams St. sections, and 45-55 MPH along the Converse Road portion. State Highway 79 currently carries an average daily traffic (ADT) of about 4,300 vehicles per day between Bennett Avenue and Colfax Avenue.

### Previous Traffic Studies

Existing Regional and Area Traffic Studies were reviewed and assisted in the preparation of traffic analysis for the Bennett Downtown Study area. These reports include:

- The Railroad Grade Separation Preliminary Feasibility Study Bennett, CO, December 2008 (*David Evans And Associates, Inc.*)
- Arapahoe County 2035 Transportation Plan, September 2010 Draft, (*David Evans And Associates, Inc.*)
- Hampstead Collection Residential Development Traffic Impact Analysis, March 2006, Update February 2007, (*Carter Burgess*)
- Loves Travel Shop Traffic Analysis Report, September 2009, (*LSC Transportation Consultants Inc.*)
- SH-79 King Soopers – Bennett Colorado Revised Traffic Impact Study, August 2002, (*Kimley-Horn and Associates Inc.*)
- The Village at Kiowa Creek, Traffic Impact Analysis and Addendum, May 2006, (*Felsburg Holt & Ullevig*)
- Design Guidelines Highway 79 Corridor, Town of Bennett Colorado, June 2001, (*Coover-Clark & Associates, John M. Mullins & Associates, Inc.*)
- Bennett High School Expansion, September 2005, (*LSC Transportation Consultants Inc.*)
- Bennett Library Expansion, October 2008, (*LSC Transportation Consultants Inc.*)



EXISTING ROADWAY NETWORK ELEMENTS LEGEND

## ≡ TRAFFIC VOLUME  
 ## ≡ PM PEAK HOUR  
 \*When necessary, Traffic Volumes have been increased to balance with higher counts at upstream intersections

## Average Daily Traffic

STOP SIGN CONTROLLED INTERSECTION  
 AT GRADE RAIL CROSSING  
 POSTED SPEED LIMIT

**BENNETT DOWNTOWN PLANNING**

**EXISTING ROADWAYS AND PEAK HOUR TRAFFIC (2010)**



Figure 2.3 Traffic Volumes

## Existing Traffic Volumes

New peak hour traffic counts were taken at Palmer/SH79 and Adams/US 36. Recent Average Daily Traffic (ADT) volume data was obtained from Colorado Department of Transportation; and both ADT and peak hour traffic counts were obtained from recent Bennett area traffic studies. It is noted that area peak hour traffic volumes from 2008, 2009, and 2010 are generally lower than volumes from 2006 and 2007. This is likely an effect of economic conditions. To remain conservative for planning purposes, the higher turning volume traffic counts have been utilized when available.

Existing Peak Hour traffic volumes were generally observed on SH79 and US36 to be higher in the PM period than the AM period. Recent Peak Hour Traffic Volume counts and area traffic impact studies confirm that Bennett's PM peak hour traffic volumes are generally higher than AM traffic volumes. The use of PM peak hour was therefore used as the design hour traffic volume in analysis and to determine future improvement needs. Recent PM peak hour and ADT traffic volume is depicted on Figure 2.3.

### Existing PM Peak Hour Levels of Service

Existing PM Peak Hour traffic volumes at study intersections were analyzed using Levels of Service (LOS) methodology defined by the Highway Capacity Manual, Transportation Research Board, and as incorporated in the Synchro traffic modeling software. The "Level of Service" is a description of an average vehicle delay under the operational conditions of volume to capacity of a roadway or intersection approach. Levels of Service generally expressed as a letter grade A through F. By definition, LOS "A" means short delays of less than 10 seconds, and LOS "E" depicts delays of 35 to 50 seconds, showing that specific approach is at capacity. LOS "F" indicates over capacity operation where delays exceed 50 seconds (at two-way stop controlled

intersections) and back ups are expected to occur.

Results of existing PM peak hour traffic LOS analysis at the intersections depicted in Figure 2.3 indicate all level of service approaches at 'B' or better with the exception of the eastbound I-70 off ramp to SH79, which operates at Level of Service 'C' (18.7 seconds).

### Future Conditions without Bennett Downtown Development

#### Rerouted Trips

The SH79 grade separated crossing improvements will re-route some of the existing traffic away from the Historic Palmer Avenue – Adams Street corridor. Utilizing existing traffic volumes from the intersections of Palmer Avenue/SH79, Adams Street/US36, and Adams Street/Converse Road it is estimated that about eighty percent of the existing through traffic (from SH79 south of US36 to SH79 north of US36) would likely prefer and be rerouted to this future SH79 grade separated crossing and continued connection. Similarly 80% of traffic observed turning east onto US36 from Adams/SH36 is estimated to be more likely to be rerouted to this more direct SH79 grade separated crossing and intersection with US36.

#### Background growth

Traffic volumes from sources outside Bennett, or background traffic volumes, are anticipated to continue to grow and add traffic to the roadway network regardless of any development activity within the Town of Bennett. According to Colorado Department of Transportation, State Highway 79 traffic volume is expected to grow at a rate of 2% per year, or 150% over the next twenty years (a 20-year growth factor of 1.5). US36 is projected to have similar growth with a 20-year growth factor of 1.48. Background traffic volumes for through movements SH79 and US36 were increased respectively to reflect future background growth.

## Traffic from Downtown Planning Study Area

### Study Land Use Areas

Using the land planning concepts developed within this Downtown Planning Study; the land use areas contained within the proposed Land Use Concept Plan (Figure 5.4) were estimated to be developed by 2030. For the purposes of this traffic analysis, the land use areas depicted were utilized as individual traffic analysis zones creating their own traffic characteristics, traffic routing, and access. The specific size or quantity of what developed within a zone was estimated based on professional judgment of a likely footprint or number of units for that particular area. The traffic analysis zones do not reflect the land uses "maximum allowable floor area ratio" (FAR) of 1.0, but a likely resulting ratio. These traffic analysis zone characteristics were entered into the "Traffix" traffic modeling software program, to build a regional traffic model for the Town of Bennett.

### Trip Generation

Development site generated traffic estimates were determined using average statistical trip generation rates for similar uses as published in the Trip Generation, 8th Edition, 2008 by the Institute of Transportation Engineers (ITE). For purpose of this analysis, it was assumed that the development in areas/zones A,B, C, D, E, F, and G (Freeway and historic downtown commercial) would consist of the ITE Trip Generation categorical uses of "Shopping Center", "Free Standing Retail"

Zone	ITE CODE	ITE Category	Qty	Unit	Trip Generation Rates (1)					Vehicle - Trips Generated				
					Average Weekday	AM Peak Hour		PM Peak Hour		Average Weekday	AM Peak Hour		PM Peak Hour	
						In	Out	In	Out		In	Out	In	Out
<b>A (west)</b>	814	Specialty Retail	100	KSF	44.32	3.28	3.56	1.19	1.52	4,432	328	356	119	152
<b>A (west)</b>	715	Single Tenant Offi	100	KSF	11.57	1.60	0.20	0.26	1.47	1,157	160	20	26	147
<b>A (east)</b>	810	Specialty Retail	100	KSF	44.32	3.28	3.56	1.19	1.52	4,432	328	356	119	152
<b>A (east)</b>	715	Single Tenant Offi	100	KSF	11.57	1.60	0.20	0.26	1.47	1,157	160	20	26	147
<b>B</b>	814	Business Park	10	AC	149.79	16.03	2.83	3.37	13.47	1,498	160	28	34	135
<b>C (west)</b>	820	Shopping Center	150	KSF	42.94	0.61	0.39	1.83	1.90	6,441	92	59	275	285
<b>C (east)</b>	820	Shopping Center	150	KSF	42.94	0.61	0.39	1.83	1.90	6,441	92	59	275	285
<b>D</b>	820	Shopping Center	100	KSF	42.94	0.61	0.39	1.83	1.90	4,294	61	39	183	190
<b>D</b>	815	Free Standing Dis	105	KSF	57.24	0.72	0.34	2.50	2.50	6,010	76	36	263	263
<b>E</b>	820	Shopping Center	150	KSF	42.94	0.61	0.39	1.83	1.90	6,441	92	59	275	285
<b>F1 (se)</b>	814	Specialty Retail	50	KSF	44.32	3.28	3.56	1.19	1.52	2,216	164	178	60	76
<b>F2 (sw)</b>	814	Specialty Retail	50	KSF	44.32	3.28	3.56	1.19	1.52	2,216	164	178	60	76
<b>F3 (ne)</b>	814	Specialty Retail	50	KSF	44.32	3.28	3.56	1.19	1.52	2,216	164	178	60	76
<b>F4 (nw)</b>	814	Specialty Retail	50	KSF	44.32	3.28	3.56	1.19	1.52	2,216	164	178	60	76
<b>G</b>	814	Specialty Retail	50	KSF	44.32	3.28	3.56	1.19	1.52	2,216	164	178	60	76
<b>H</b>	110	Light Industrial	106	AC	51.80	6.23	1.28	1.60	5.66	5,491	661	135	169	600
<b>I</b>	-	existing	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>J</b>	110	Light Industrial	100	AC	51.80	6.23	1.28	1.60	5.66	5,180	623	128	160	566
<b>K</b>	210	Single-Family Deta	500	DU	9.57	0.19	0.56	0.64	0.37	4,785	94	281	318	187
<b>L</b>	770	Business Park	85	AC	149.79	16.03	2.83	3.37	13.47	12,732	1,363	240	286	1,145
<b>M</b>	210	Single-Family Deta	300	DU	9.57	0.19	0.56	0.64	0.37	2,871	56	169	191	112
<b>N</b>	210	Single-Family Deta	400	DU	9.57	0.19	0.56	0.64	0.37	3,828	75	225	255	149
<b>O</b>	210	Single-Family Deta	320	DU	9.57	0.19	0.56	0.64	0.37	3,062	60	180	204	120
<b>P</b>	210	Single-Family Deta	180	DU	9.57	0.19	0.56	0.64	0.37	1,723	34	101	115	67
<b>Q</b>	-	existing	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>R</b>	210	Single-Family Deta	100	DU	9.57	0.19	0.56	0.64	0.37	957	19	56	64	37
<b>S</b>	-	existing	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>										<b>94,012</b>	<b>5,353</b>	<b>3,435</b>	<b>3,652</b>	<b>5,405</b>

Notes: Source: 1) "Trip Generation", Institute of Transportation Engineers, 8th Ed  
 AC= Acre (43,560sf)  
 KSF = Thousand Square Feet  
 DU = Dwelling Units

and “Specialty Retail” uses. Zone ‘A’ also included “Single Tenant Office” category uses. Development in zones M, N, O, P, (Medium and Low Density Residential) was assumed to develop with the ITE categorical uses of “Single-Family Detached Residential” homes. Development of additional areas in zone L would consist of the ITE categorical use “Business Park”, while development of zones H and R were considered to be out of the twenty-year development to add to the SH79 traffic network.

**Trip Distribution**

Trip Distribution was based on existing and historic traffic patterns as well as the proposed developments proximity to specific roadways and transportation corridors. In general, trips were distributed with the following percentages and orientations:

- 10 percent on State Highway 79 (Kiowa Bennett Road) north of Bennett
- 5 percent on Old Victory Road east of Bennett
- 8 percent on SH36 (Colfax) east of Bennett
- 10 percent on SH36 (Colfax) west of Bennett
- 2 percent on Brick Center Road southwest of Bennett
- 10 percent on Converse Road south of Bennett
- 40 percent on Interstate 70 west of Bennett
- 15 percent on Interstate 70 east of Bennett
- 15 percent on Interstate 70 east of Bennett

**Future Traffic Conditions with Development And Future Roadway Infrastructure Needs**

Addition of the background traffic to the assigned development traffic results in the total traffic on the roadway network. The total expected traffic for example intersections is depicted In Figure 2.5.

Traffic analysis was performed on the projected 2035 PM Peak Hour traffic volumes in order to provide conceptual infrastructure improvements to the roadway network. The analysis was accomplished using ‘Synchro’ traffic analysis software.

**Roadway and Intersection Improvements for Acceptable Levels of Service in 2035**

I-70 Ramps Eastbound / State Highway 79 will require signalization to operate with acceptable levels of service. The I-70 overpass will need to be improved to a six-lane section which would include dual southbound left turns (eastbound on ramp), two (2) northbound and two (2) southbound travel lanes. Additionally, dual eastbound left turns (eastbound off ramp) appear to be needed.

I-70 Ramps Westbound / State Highway 79 will require signalization to operate with acceptable levels of service. Although the intersection can operate acceptably with a single northbound left turn (to westbound I-70 on ramp), a dual southbound right turn (to westbound I-70 on ramp) is

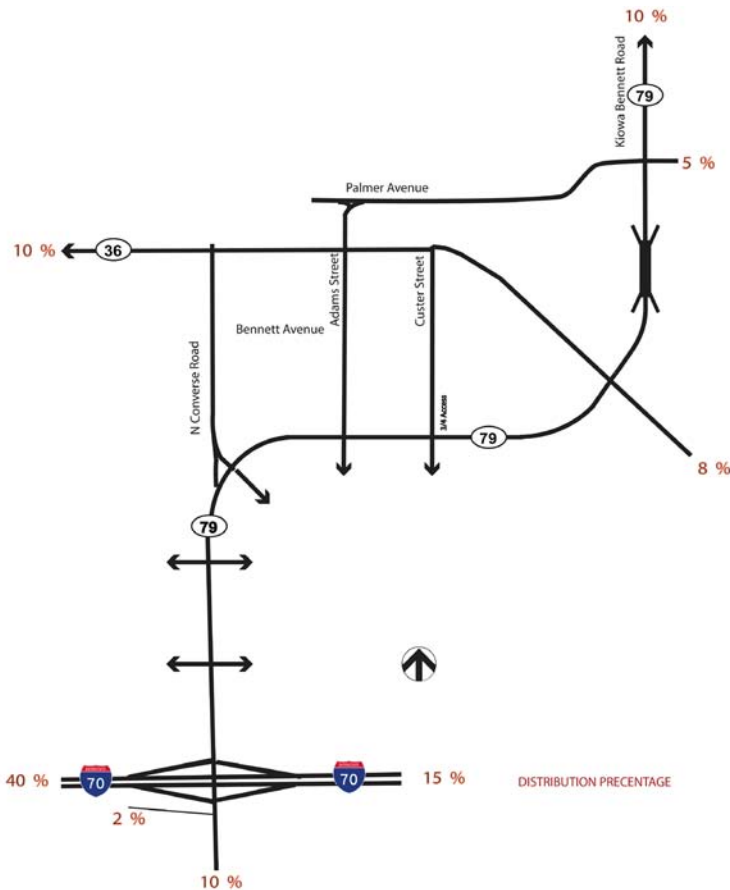
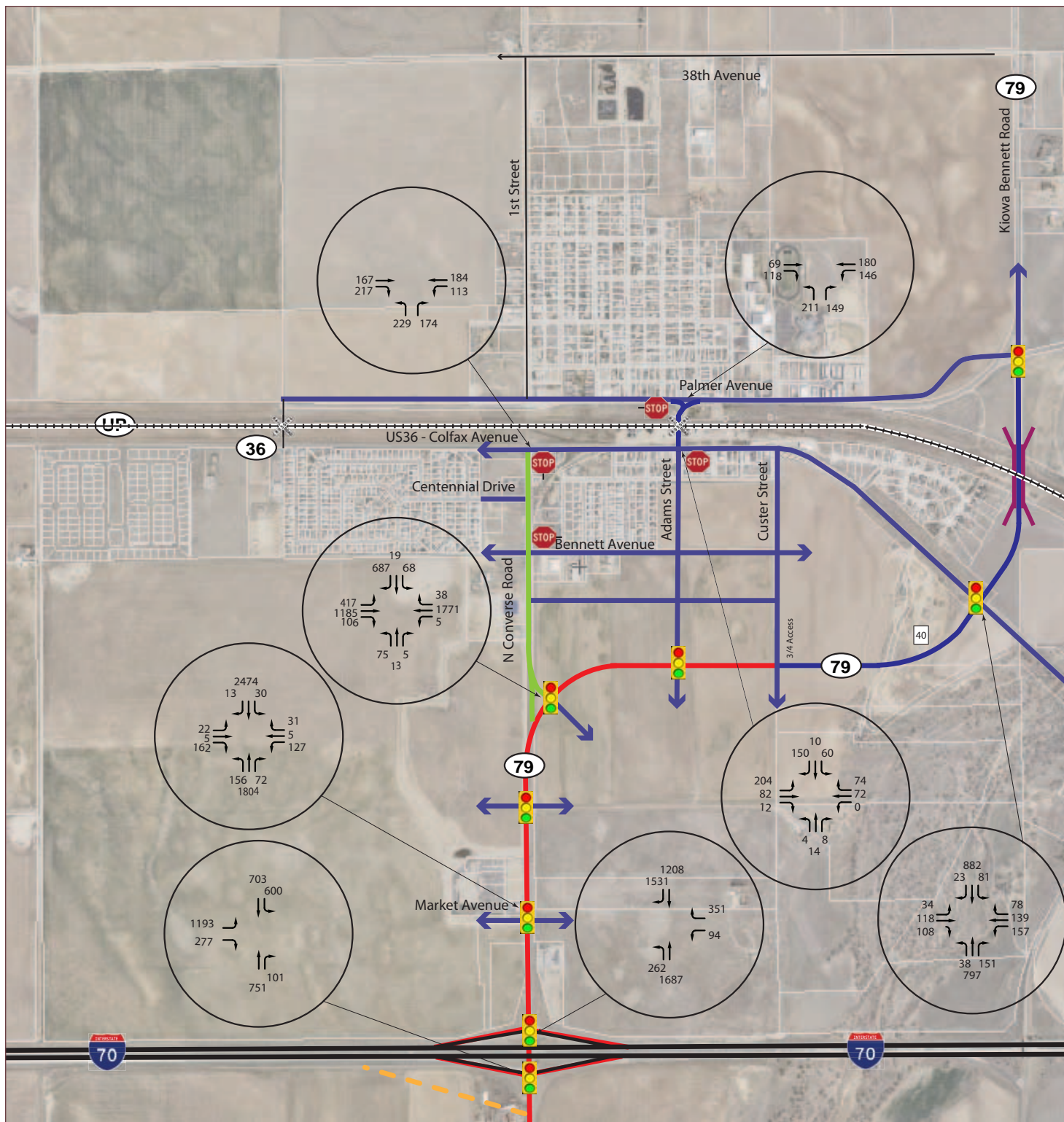


Figure 2.4 Trip Distribution Plan





**FUTURE ROADWAY NETWORK ELEMENTS**

- Arterial (Four Lane)  
High Volume  
Moderate to High Travel Speed
- Commercial Collector  
Two Lanes with Turn lanes  
at Intersections  
Moderate to low speeds
- "Main-Street" Commercial  
Two to Four Lane Walkable Collector  
With Aux Turn Lanes  
Low Speeds - Ped Friendly
- Future Roadway Needs

- POTENTIAL TRAFFIC SIGNAL
- STOP SIGN CONTROLLED INTERSECTION
- AT GRADE RAIL CROSSING
- SPEED LIMIT
- BRIDGE

**BENNETT DOWNTOWN PLANNING  
FUTURE ROADWAY NETWORK (2035)**



Figure 2.5 Future Roadway Network (2035)

needed. This additional ramp lane should be continuous back to Market Avenue.

State Highway 79 / Market Avenue will require signalization to operate with acceptable levels of service. This is the most congested through-volume segment of SH79, and would benefit from three southbound travel lanes and two northbound travel lanes.

State Highway 79/ Converse Road will require signalization for acceptable operations. The roadway should be planned for a dual eastbound left turn ultimately (State Highway 79 to N Converse Road), and an added free traffic lane for the southbound Converse road transition to State Highway 79.

State Highway 79/ Adams Street may warrant future signalization based on SH79 (major road) left turn volumes onto Adams Street. If not signalized in the long range future, left turns onto or across SH79 will experience long delays during peak hours. SH79 should be two (2) through-lanes in each direction at this intersection.

State Highway 79/ Custer Street intersection is not projected to have sufficient traffic volume to warrant a traffic signal in the 25-year future. It is likely that this intersection will be restricted to three-quarter movement (no left out).

Converse Road / US36 is projected to operate with acceptable levels of service under 2035 traffic volumes with existing lane geometry and stop control.

US36/ Adams Street is unlikely to warrant a traffic signal under future 2035 traffic conditions, but would likely have improved operations if the stop sign were placed on Colfax instead of Adams.

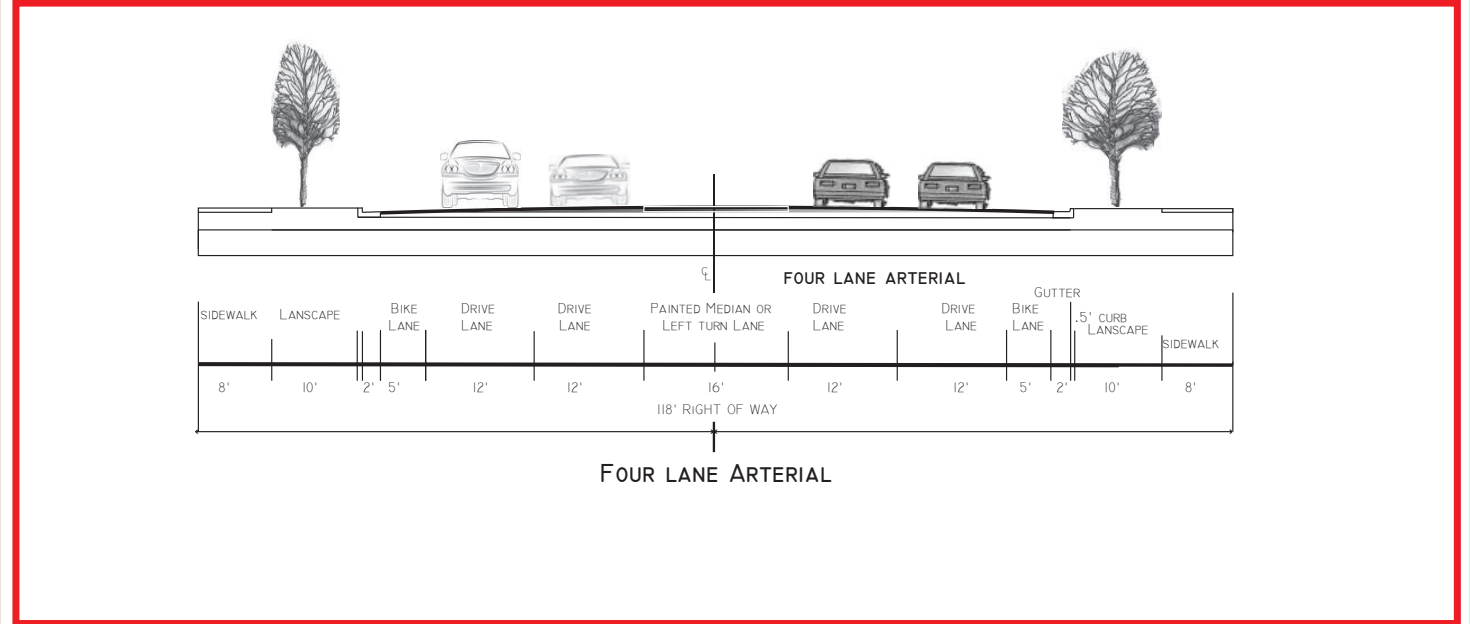
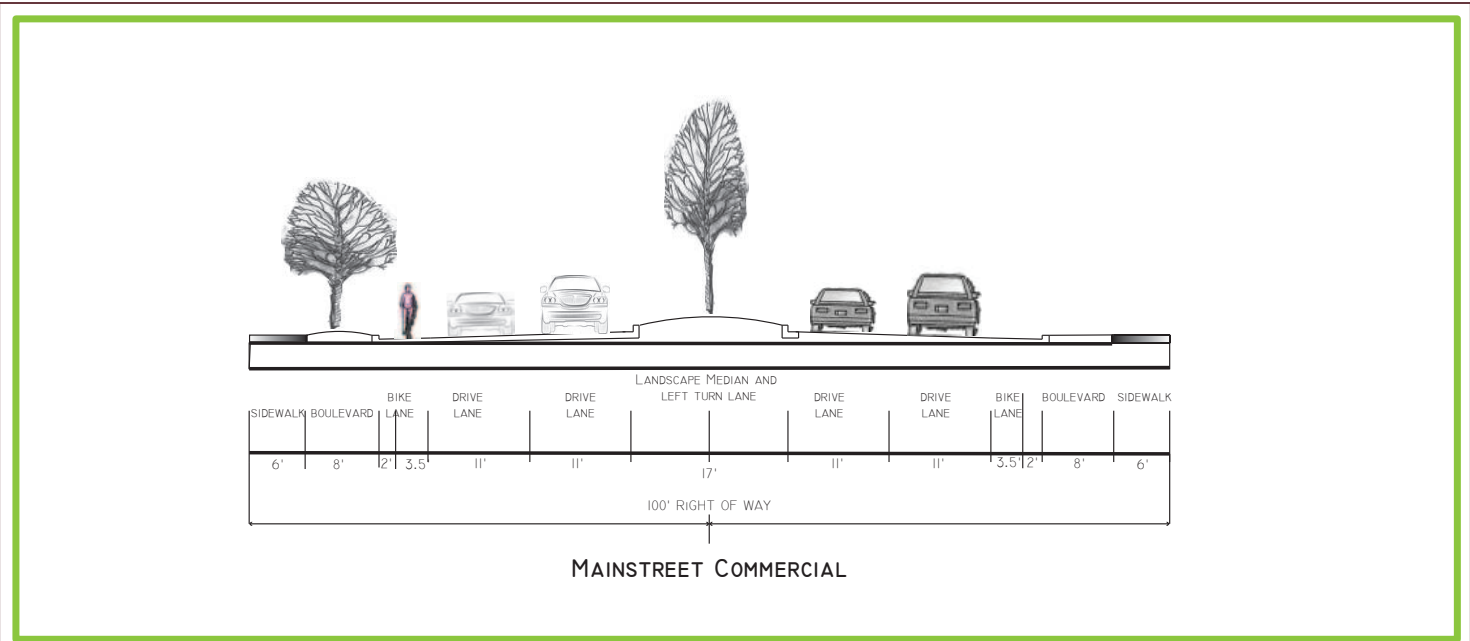
US36/SH79 is projected to operate with a traffic signal under future 2035 traffic conditions. Traffic analysis indicates the intersection will operate acceptably with one (1) lane in each direction on State Highway 79.

SH79/Palmer Avenue/Old Victory Road is questionable whether the intersection would have sufficient traffic volume to warrant a traffic signal in the 25-year future. However, this intersection is close enough to the school and pedestrian crossings that other signal warrants may occur and should likely be planned for. A single through-lane in each direction, with separate left and right turn lanes, is projected to provide acceptable traffic operations.

Roadway cross sections have been developed for the Bennett Downtown Study Plan and are depicted in Figure 2.6.

## Conclusion

Based on the traffic analysis and estimated development as described in this study, the Bennett downtown area can maintain acceptable traffic operations with the improvements recommended herein through year 2035. Nearing year 2035, unless alternate regional access is developed to I-70, the State Highway 79 corridor will begin to experience significant congestion at I-70.



TYPICAL CROSS SECTIONS

Arterial (Four Lane)  
High Volume  
Moderate to High Travel Speed

"Main-Street" Commercial  
Two to Four Lane Walkable Collector  
With Aux Turn Lanes  
Low Speeds - Ped Friendly

**BENNETT DOWNTOWN PLANNING**  
**FUTURE ROADWAY SECTIONS**



Figure 2.6 Proposed Roadway Cross Sections



### 3. Regional Trail Network

The following section introduces the central concepts contained in the 'Bennett Regional Trail Plan' document.

#### Background

The Bennett Regional Trail Plan has been in the minds and hearts of community residents for many years. With an effort to begin implementing recommendations from the 2009 'Parks, Trails & Open Space Master Plan', the Town applied for and was awarded two (2) grants through the Arapahoe and Adams County's Open Space Grant Programs. Funding from these grants was used to develop the 'Bennett Regional Trail Plan'.

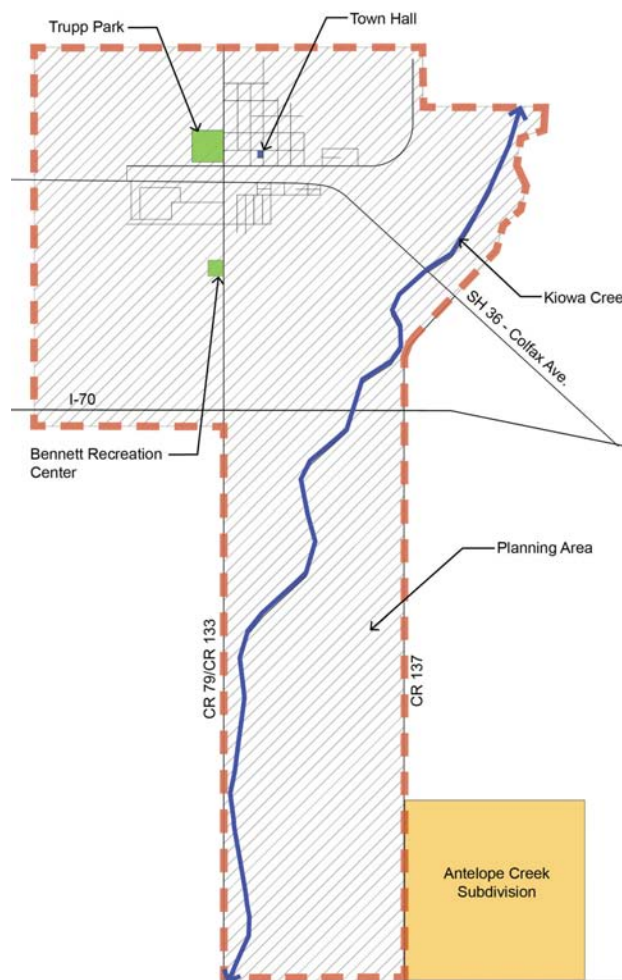


Figure 3.1 Trail Planning Area

#### Guiding Principals

The guiding principals behind developing a Regional Trail Plan include:

- Identify a trail network system that incorporates off road greenway trails, bike routes, and on-street bike lanes.

- Provide for transportation alternatives, recreation, and open space networks.
- Create a network that traverses the Town and serves as a starting point for a wider regional trail network.
- Connect important origins and destinations including neighborhoods, shopping centers, schools, parks & natural areas, transit stops, etc.
- Identify key open space corridors and essential trail easements.

#### Community Input

The community was deeply involved in the regional trails planning process. Stakeholders, community members, and area residents were asked to provide input at different stages on topics including trail head amenities, locations and types of trail facilities, trail routing, and design. The methods to acquire feedback included various presentations, poster board displays, and a trail questionnaire. The results from the 11 completed questionnaires follow.

When asked where future trails should be located; the following comments were given:

- between Bennett & Strasburg;
- through and encircling the Town including the Antelope Hills Subdivision;
- along Kiowa Creek, I-70, woodland and wildlife areas; and
- from Antelope Hills to King Soopers/Bennett Marketplace.

When asked how new trails would be used:

- 55% recreation;
- 28% both travel and recreation; and
- 17% did not respond

When asked 'do you have children who rely on the existing trail/pathways to get around Town?':

- 55% no; and
- 45% yes

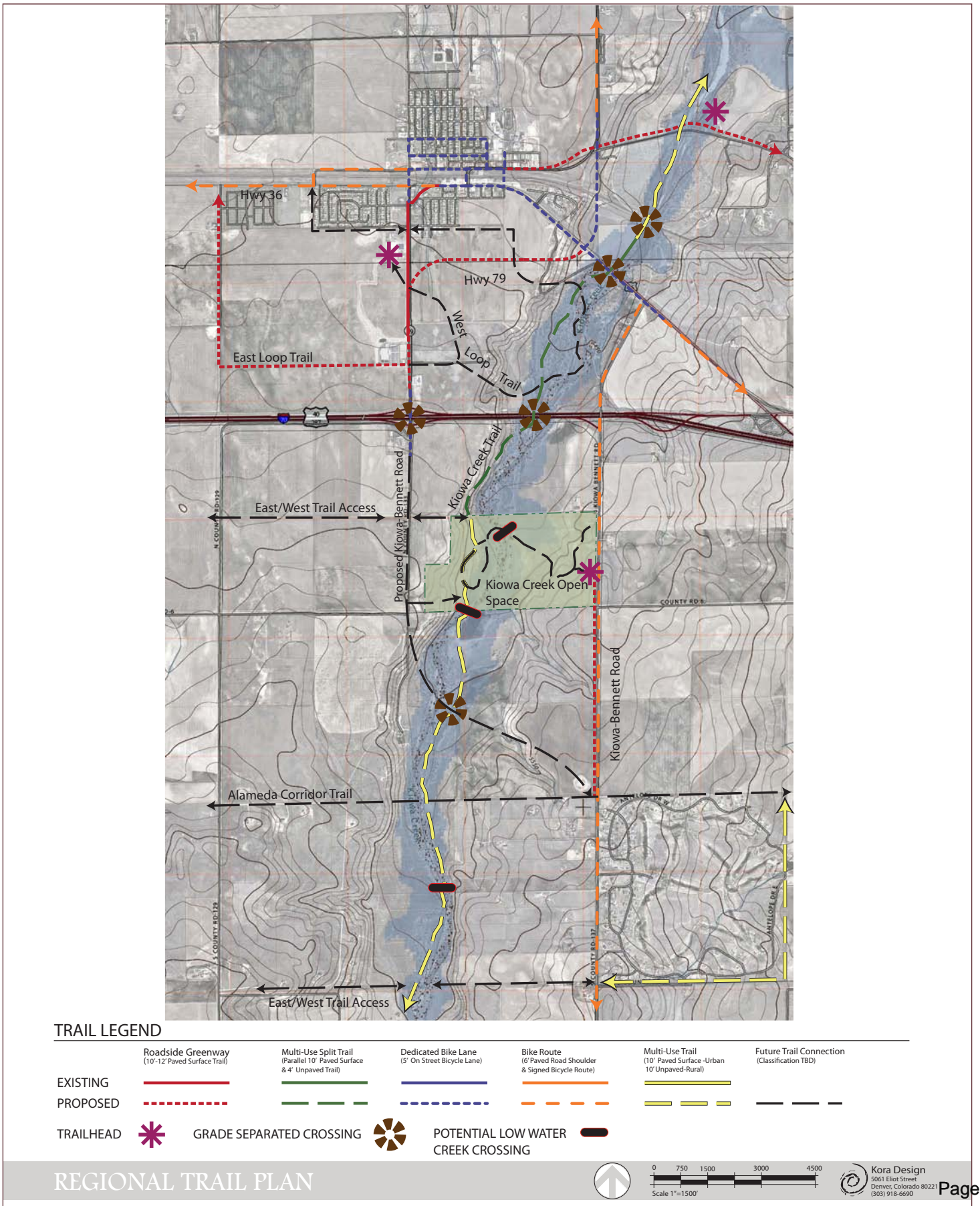


Figure 3.2 Bennett Regional Trail Plan

## Regional Trail Plan

The Bennett Regional Trail Plan performs a very important function in achieving the community's vision for a multi-modal transportation network (see Figure 3.2). It connects residential neighborhoods to schools, business, and recreation opportunities through a system of parks, recreation facilities, open space and trails. Connection between existing and planned development is another function of the interconnected trail system.

It is anticipated that the trail network will be used by people of all ages and abilities including area residents and regional visitors. Whether utilizing the trails for recreation or to commute to and from destinations; the trails should accommodate a diverse user group including: runners/walkers, bicyclist, pet owners, in-line skaters, persons with disabilities, equestrians, wildlife viewers, and nature enthusiasts.

### Proposed Trail Network

The Town of Bennett currently has one existing paved surface trail west of SH79 between Palmer Ave. and the King Soopers/Bennett Marketplace parking lot. This trail segment is frequently used (despite the lack of shade and shelter along the trail) and it served as a building block in the development of the Regional Trail Network. The proposed network consists of nine (9) trail routes and three (3) trailheads that were identified as preferred routes based on input from area residents, Town staff, and Downtown Planning Study team members. The proposed trail network is shown in Figure 3.3.

### Trail Routes

1. Neighborhood-School Bike Route
2. East Town Loop Trail
3. West Town Loop Trail
4. Bennett-Strasburg Trail
5. Kiowa Creek Trail
6. Kiowa-Bennett Bike Route
7. Watkins-Strasburg Bike Route
8. Kiowa-Bennett Road/ SH79 Trail
9. Alameda Trail

### Trailheads

- A. Downtown Trailhead/Parking Facility
- B. Arapahoe County Trailhead
- C. Adams County Trailhead

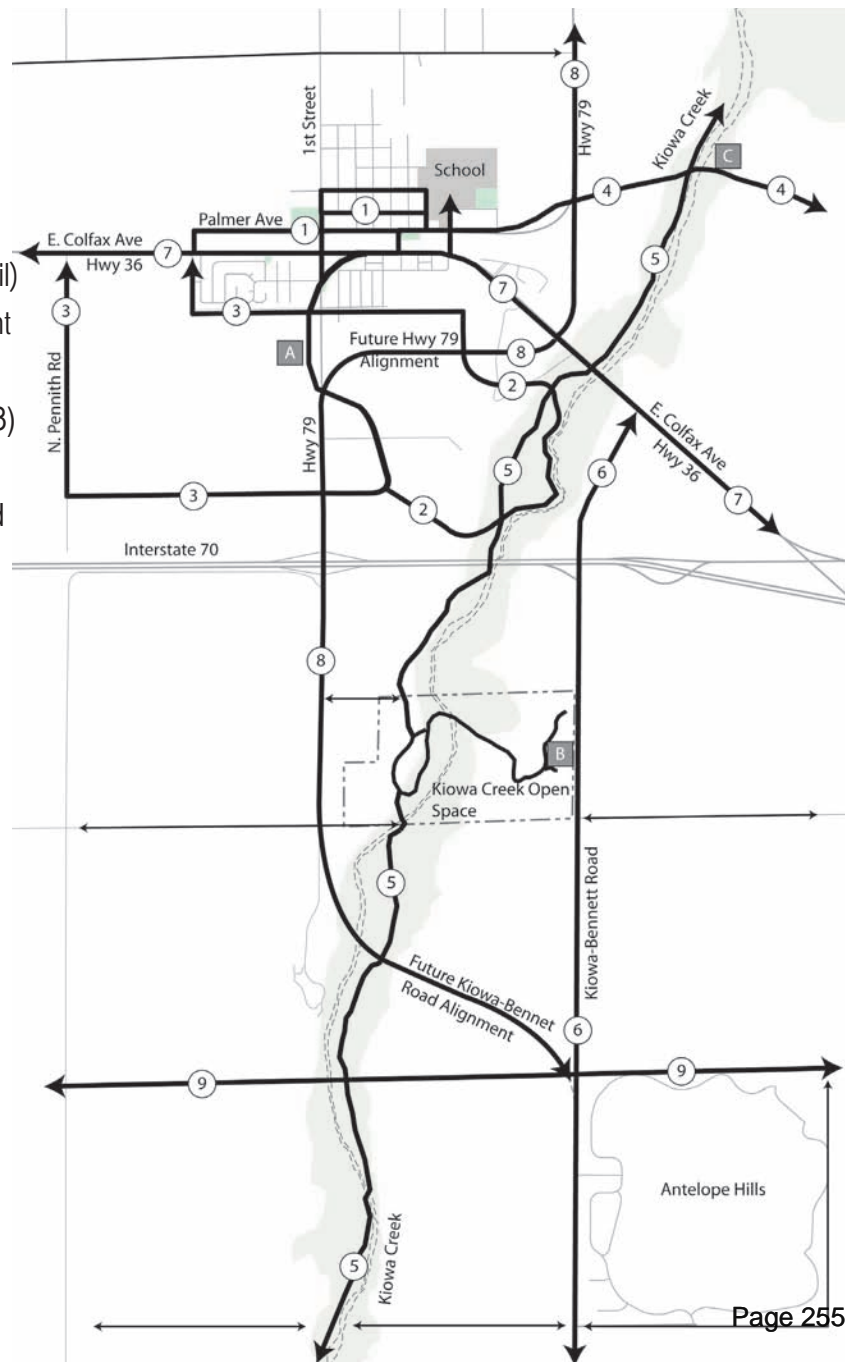


Figure 3.3 Proposed Regional Trail Network

## Trail Route Descriptions

The following trail descriptions provide details concerning trail routes and connections. Refer to the 'Bennett Regional Trail Plan' for additional information including identified opportunities and constraints.

### 1. Neighborhood School Bike Route

This on street bike route provides a direct connection for the neighborhoods and the existing trail located south of the tracks to the residential neighborhood, current Town facilities, Trupp Park, and the school campus north of the railroad line. This route will also include a designated location for users to cross the UP railroad tracks via a concrete walk adjacent to the paved roadway (see Figure 3.4).

#### Potential Trail Connections

- Bennett-Strasburg Trail (4)
- Watkins-Strasburg Bike Route (7)
- East Town Loop Trail (2)
- West Town Loop Trail (3)

### 2. East Town Loop Trail

This trail route will include a multi-use trail that is located within future open space and greenbelts. This will be a key trail link to connect the Downtown Trailhead/Parking Facility with Arapahoe County's Kiowa Creek North Open Space (see Figure 3.5).

#### Potential Trail Connections

- Neighborhood-School Bike Route (1)
- Watkins-Strasburg Bike Route (7)
- West Town Loop Trail (3)
- Kiowa Creek Trail (5)
- Kiowa-Bennett Road/ SH79 Trail (8)



Figure 3.4 Neighborhood-School Bike Route



Figure 3.5 East Town Loop Trail



### 3. West Town Loop Trail

This roadside greenway trail will provide access to future development between I-70, US Highway 36, and State Highway 79. This trail will be accessible from the proposed civic center and downtown trail head (see Figure 3.6).

#### Potential Trail Connections

- Neighborhood-School Bike Route (1)
- Watkins-Strasburg Bike Route (7)
- East Town Loop Trail (2)
- Kiowa-Bennett Road/ SH79 Trail (8)

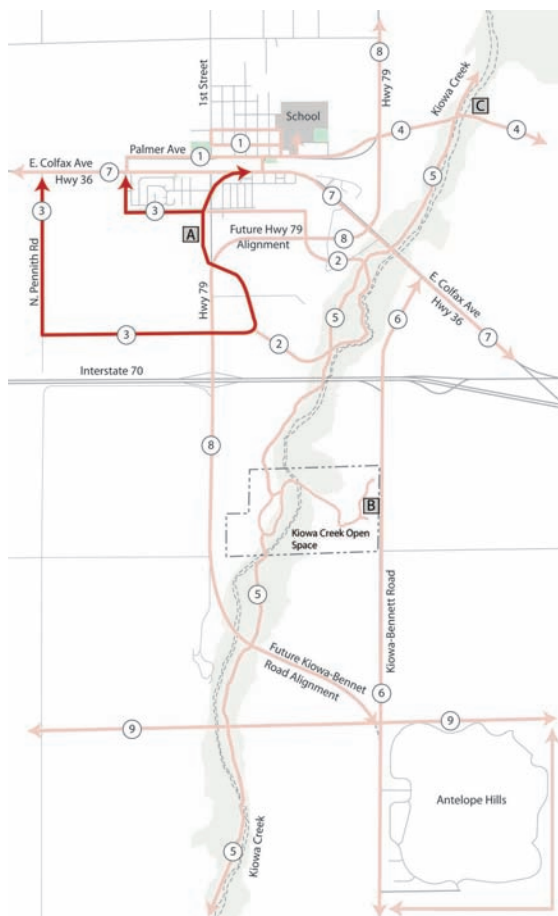


Figure 3.6 West Town Loop Trail

### 4. Bennett-Strasburg Trail

This trail segment will provide a regional trail connection between Bennett and Strasburg; which is a community located approximately six (6) miles to the east. It will consist of a roadside greenway trail along Old Victory Road to a point where it intersects with the Watkins-Strasburg Bike Route. This trail will also be accessible from the proposed Adams County Trailhead that is planned near Kiowa Creek (see Figure 3.7).

#### Potential Trail Connections

- Neighborhood-School Bike Route (1)
- Kiowa Creek Trail (5)
- Kiowa-Bennett Road/ SH79 Trail (8)



Figure 3.7 Bennett-Strasburg Trail

### 5. Kiowa Creek Trail

This trail will run adjacent to Kiowa Creek and will provide a connection from Bennett’s Downtown to the Kiowa Creek Open Space, residential properties, and neighborhoods south of I-70. It is comprised of a Multi-Use Single Trail that transitions to a Split Trail between the Kiowa Creek Open Space and US Highway 36. This trail will be accessible from both the Arapahoe County and Adams County Trailheads (see Figure 3.8).

#### Potential Trail Connections

- Kiowa Creek Open Space Trail
- Kiowa-Bennett Road/ SH79 Trail (8)
- Alameda Trail (9)
- East Town Loop Trail (2)
- Watkins-Strasburg Bike Route (7)
- Bennett-Strasburg Trail (4)



Figure 3.8 Kiowa Creek Trail

### 6. Kiowa Bennett Bike Route

This on-street Bike Route will run north-south along Kiowa-Bennett Road from the Antelope Hills Subdivision to US Highway 36. It will serve to provide access for users to the Kiowa Creek Open Space and the Watkins-Strasburg Bike Route (see Figure 3.9). As an alternative, additional user groups could be served by this trail route by constructing a multi-use trail for the trail segment between Antelope Hills Subdivision and the Kiowa Creek North Open Space.

#### Potential Trail Connections

- Watkins-Strasburg Bike Route (7)
- Kiowa Creek Open Space Trail
- Kiowa-Bennett Road/ SH79 Trail (8)
- Alameda Trail (9)



Figure 3.9 Kiowa Bennett Bike Route

### 7. Watkins-Strasburg Bike Route

This Bike Route will provide a regional connection from Watkins to Strasburg running east-west along the US Highway 36 Road corridor. It will consist of a signed bike route that transitions to a dedicated bike lane through the downtown core (see Figure 3.10).

#### Potential Trail Connections

- West Town Loop Trail (3)
- Kiowa-Bennett Road/ SH79 Trail (8)
- Neighborhood-School Bike Route (1)
- Kiowa-Bennett Bike Route (6)
- Kiowa Creek Trail (5)



Figure 3.10 Watkins-Strasburg Bike Route

### 8. Kiowa-Bennett Road/ SH79 Trail

This trail will run adjacent to the proposed SH79 alignment north of I-70 and the Arapahoe County 2035 Transportation Plan alignment of Kiowa-Bennett Road. It will consist of a roadside greenway trail to the south of the US Highway 36 intersection and a dedicated bike lane that transitions to a bike route to the north of US36. This trail will be accessible from the proposed Downtown Trailhead/Parking Facility and will have three (3) grade-separated bridge crossings located at I-70, Kiowa Creek, and the UP Railroad (see Figure 3.11).

#### Potential Trail Connections

- East Town Loop Trail (2)
- West Town Loop Trail (3)
- Kiowa Creek Trail (5)
- Watkins-Strasburg Bike Route (7)
- Bennett-Strasburg Trail (4)
- Kiowa-Bennett Bike Route (6)
- Alameda Trail (9)



Figure 3.11 Kiowa-Bennett Road/ SH79 Trail

### 9. Alameda Trail

The Alameda Trail corridor identified in the Arapahoe County Open Space Master Plan will serve as one of the primary east-west routes south of I-70; ultimately connecting several of the eastern plain's linear riparian systems (see Figure 3.12).

#### Potential Trail Connections

- Kiowa Creek Trail (5)
- Kiowa-Bennett Road/ SH79 Trail (8)
- Kiowa-Bennett Bike Route (6)
- Antelope Hills Subdivision Perimeter Trail

### East-West Access Corridors

East-west trail connectors will need to be provided as the Town continues to develop and grow; especially south of I-70. These trail connections will provide access to the Kiowa Creek Trail for existing and future residents and should occur at mile or half mile increments (see Figure 3.13).

#### Trail Access

Trailheads are critical to the trail network system. The trailhead serves as a link between various transportation systems and the trail network while establishing access points that are available to everyone. Trailheads should be highly visible and should take into consideration the diversity of trail users and the overall function of the specific trail. For example, a trailhead with access to an equestrian path might also accommodate trailer parking and access to drinking water for horses.



Figure 3.12 Alameda Trail



Figure 3.13 East-West Access Corridors

Trailheads provide the necessary useful information to tell the user where they are along certain trails, where specific trails lead, and more importantly, how to get there. The three (3) proposed trailheads shown in Figure 3.3 will provide parking and other amenities that might include: drinking fountains, trash receptacles, picnic shelter, restrooms, benches, trail signs, and maps. For more detailed information on trailheads and additional trail access points refer to the 'Bennett Regional Trail Plan' document.

### Trail Classifications

The trails within the Regional Trail Network have been grouped into two (2) categories: Shared-Use Trails and Bike Routes/Bike Lanes. The specifics for each category follows:

#### Shared Use Trails

Shared use paths will accommodate multiple user groups including pedestrians, cyclists, and equestrians and are typically located within open space corridors or adjacent to roadways with a designated landscape strip, tree lawn, tree grates or landscape buffer separating the trail path from the road edge. Roadside greenways, detached sidewalks, and multi-use trail classifications are included in this group. (Refer to Figures 3.14-3.16 for typical cross sections)

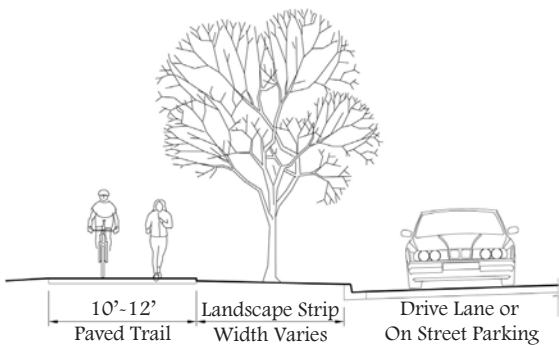


Figure 3.14 Roadside Greenway Trail/ Sidewalk

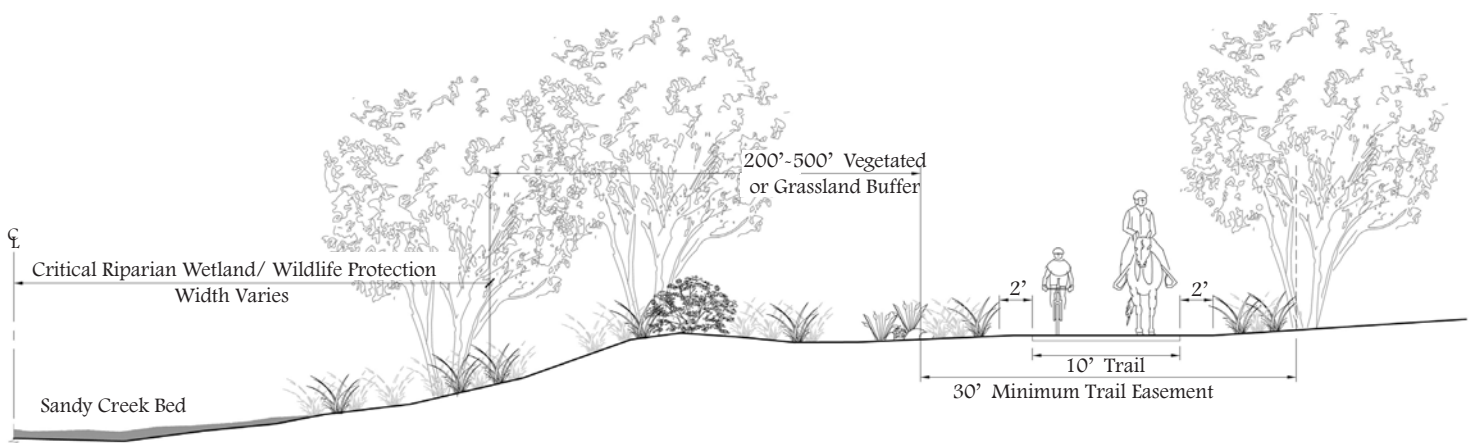


Figure 3.15 Multi-Use Trail

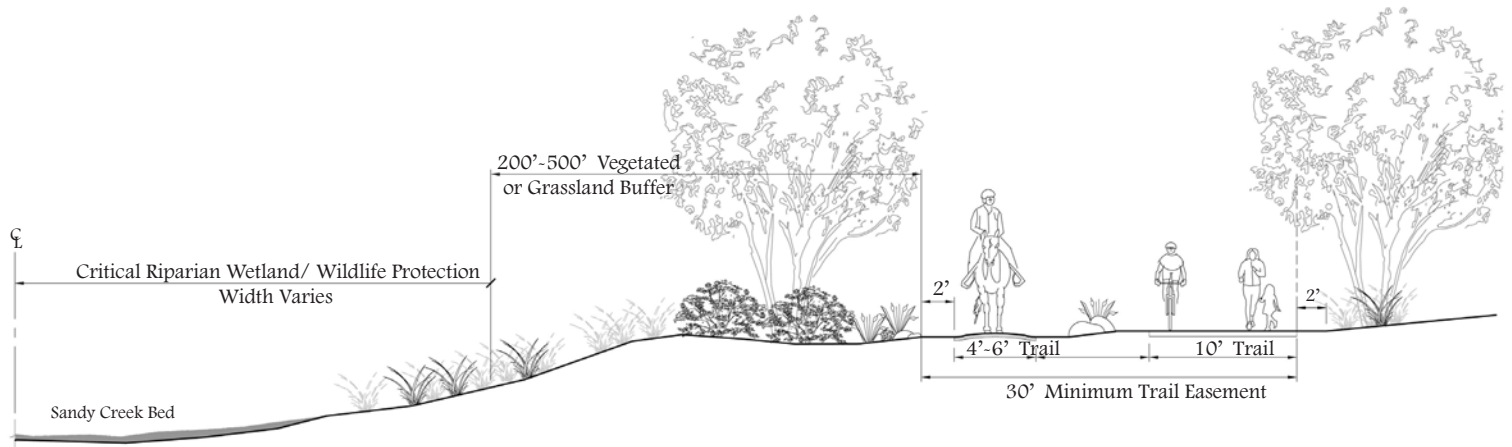


Figure 3.16 Multi-Use Split Trail

### Shared Use Trail Design

	Roadside Greenways & Sidewalks	Multi-Use Split Trail		Multi-Use Single Trail
		Paved	Unpaved	
Width	10'-12'	10'	4'-6'	8'-10'
Surface	Concrete / Asphalt	Concrete/Asphalt	Gravel, Crushed Stone	Urban-Concrete/Asphalt Rural-Gravel, Crushed Stone, or compacted natural surface
Vertical Clearance	10'	10'	10'-12'	10'-12'
Trail Shoulder Width	2'	2'	2'	2'
Maximum Slope	8% (5% preferred)	8%	8%	8%
Cross Slope	2%	2%	2%	2%

### Bike Routes & Bike Lanes

Bike lanes and bike routes will accommodate a single user group; the cyclist. They are on-road routes including local roads and highways. Design requirement will vary based on roadway grade, speed limits, and traffic volume. Bike lanes and bike routes shall be in compliance with AASHTO requirements. (Refer to Figures 3.17-3.18 for typical cross sections)

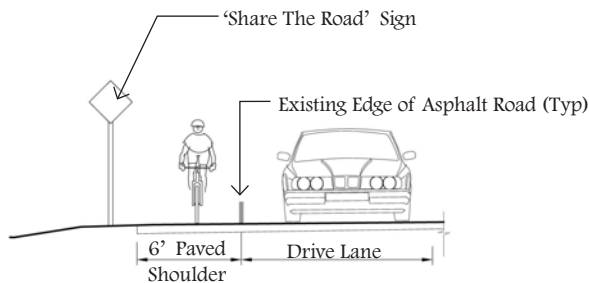


Figure 3.17 Signed Bike Route

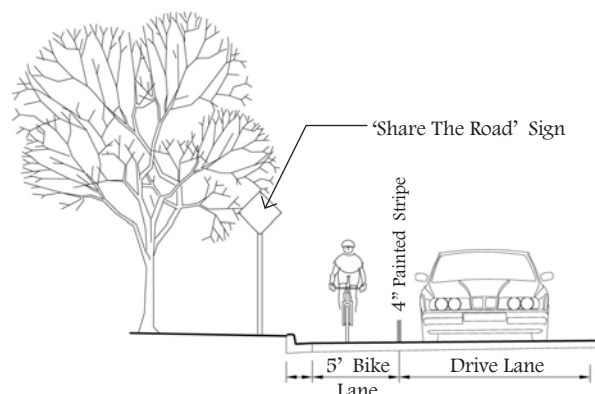


Figure 3.18 Dedicated Bike Lane

## Conclusion

Based on community input from questionnaires and community meetings, there is a strong need for additional local and regional trail routes. The construction of new trails will provide additional transportation and recreational choices for residents and adjacent communities in Adams and Arapahoe Counties. Highest priority should be given to trail routes that provide safe travel routes from residential neighborhoods to the school and between neighborhoods and commercial corridors especially those divided by I-70.

## Recommendations

- Consider planting drought tolerant deciduous shade trees along the existing SH79 trail at a spacing of one tree per 40 linear feet of the trail.
- Utilize volunteer community members to plant trees.
- Focus efforts on constructing segments of trail that will connect Antelope Hills Subdivision, Kiowa Creek Open Space, and Bennett's Downtown.
- Implement additional trail segments as funding becomes available or when development and infrastructure improvements take place.
- Consider modifications and/or upgrades to existing facilities to implement these initial trail segments.
- Begin discussions with landowners along the Kiowa Creek to negotiate trail easements. With upgrades to the Converse Road Bridge & Kiowa-Bennett Road Bridge over I-70 not likely to happen for several years, the safest and likely most cost effective method to get trail users across the interstate will be under the I-70 Bridge that spans the Kiowa Creek floodplain.
- Continue seeking annual grant funding from the respective County Open Space programs and organizations like the Great Outdoors Colorado (GOCO) for trail development & construction.
- Prior to design and development of the Kiowa Creek Trail, additional detailed site information will be needed.
- Plan for the costs of Topographic and Boundary Surveys in addition to environmental studies that will identify potential impacts of trail routes associated with critical wildlife habitat, established wetlands and riparian areas.
- Utilize and upgrade as necessary existing roadways to provide safe access for bicyclist.
- Work with CDOT to improve Kiowa-Bennett Road and the bridge over I-70 as a safe on-street bike route.
- Work with landowners along Kiowa Creek to preserve floodplain, agriculture lands, and the riparian environment.
- Work with adjacent communities and counties to pursue development of proposed regional trail routes.
- Pursue with Adams County the Kiowa Creek Trail link from I-70 north to the proposed Adams County Trailhead
- Pursue with Arapahoe County the Kiowa Creek Trail link from I-70 south to the Kiowa Creek North Open Space, continuing on to connect with the recently acquired Kiowa Creek South Open Space at the southern county boundary.
- Encourage future developments that will have an impact on the existing I-70/Converse Road Bridge to contribute funds for future bridge improvements that incorporate a safe on-street bike route.





## 4. Parking Facility

### General Overview

The Town leadership identified the need for a community parking facility to serve commuters living in the I-70 corridor and working in the greater Denver area. When the grant was awarded through DRCOG, the project coincided with the larger Downtown Planning Study and expanded the commuter parking to include parking for the proposed civic center, possible commercial parking, and proposed trailhead parking for local and regional trails

### Community Input

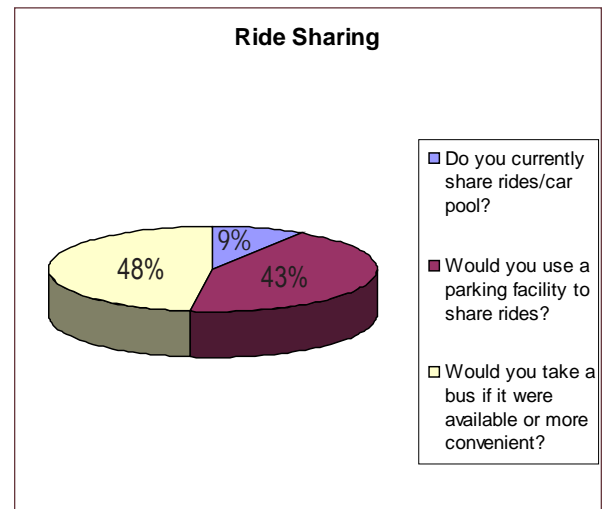
The community input consisted of three (3) Town meetings and four (4) steering committee meetings along with a questionnaire that was mailed in the August utility bills specifically targeting property owners within Bennett. These questionnaires were available and collected at all public meetings.

### Parking Questionnaires Results

We received 115 completed questionnaires representing 275 people which probably included children as the questionnaire did not ask to separate adults from children. The respondents were all within the zip code and receiving utility service through the Town of Bennett.

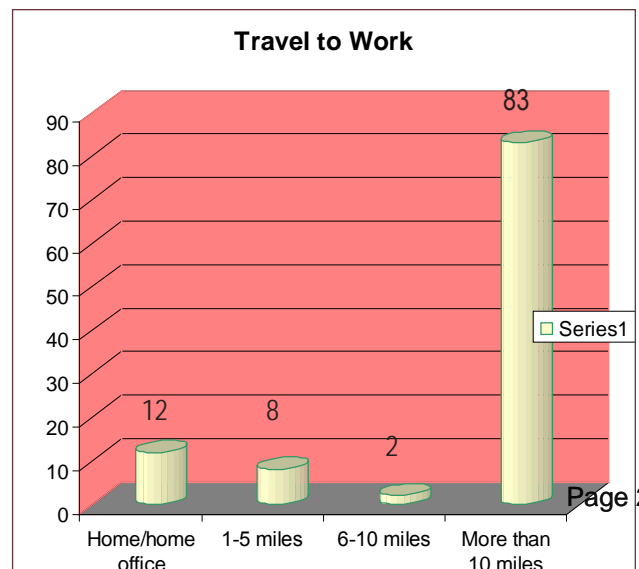
The three (3) important questions that addressed commuter parking and ride sharing follow:

Ride Sharing	Percent
Do you currently share rides/car pool?	9%
Would you use a parking facility to share rides?	43%
Would you take a bus if it were available or more convenient?	48%



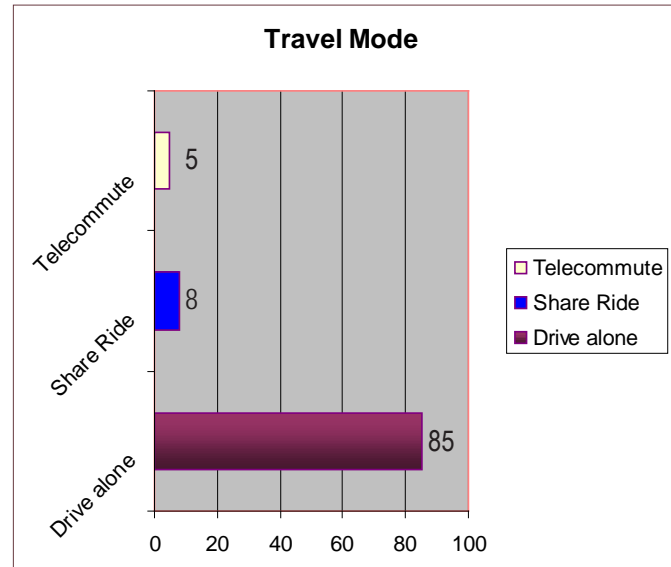
The following chart addresses the number of minutes it takes the respondents to commute to work based upon the distance they have to travel.

Travel to Work	Number	Time in Minutes
Retired	5	N/A
Home/home office	12	N/A
1-5 miles	8	5-20
6-10 miles	2	10
More than 10 miles	83	20-70
Total	105	



The following chart addresses the number of respondents who are traveling alone by vehicle, telecommuting, and sharing a ride to work.

Travel Mode	Number
Telecommute	5
Share Ride	8
Drive Alone	85
Total	98



### Questionnaire Summary

The ride sharing data demonstrates that there is a strong demand for ride sharing (approximately 43%) compared to the number of people currently sharing rides (approximately 9%). Additionally, the data show that there is a strong demand for bus service as an alternative to current transportation choices (approximately 48%). The Travel Mode data illustrate that over 80% of the respondents are driving alone as their commuting option.

The travel to work data collected demonstrates that most people (almost 83%) travel further than 10 miles to work and the range is from 20 minutes to over an hour of travel time. These results illustrate a demand for alternatives to driving alone and support the idea of a commuter parking facility.

### Parking Demand Analysis

In addition to the questionnaire, the project team approached the commuter parking demand from several sources. Research was conducted through communities of a similar size and distance from the Denver Metropolitan area to see if they had any facilities to support shared parking. We contacted the Towns of Lochbuie, Keenseburg, and Hudson. Each of which meet the characteristics and are all along I-76 and approximately 30 minutes from Denver. None of these Towns had any support for shared parking

formally or informally. We received a parking study through DRCOG for the Town of Nederland which is a similar size, but appeared to be too dissimilar to Bennett in terms of the distance from the metro area with a large impact from the local ski area. The team determined that Nederland’s findings weren’t relevant to the Town of Bennett.

Another strategy was to distribute a windshield survey on cars parked in the King Soopers parking lot to determine whether people were utilizing the site as an informal parking facility for shared parking. We did not receive a response from this survey.

None of the respondents from the parking questionnaire indicated they used King Soopers parking, however, a few indicated it would be a good location for shared parking, if it were available.

### Existing Public Parking Areas

This Study analyzed the existing supply of public parking in order to evaluate how to meet the projected commuter demand. The Study only looked at public parking and an evaluation of private parking may be needed in the future.

Current public parking areas in Bennett are generally associated with existing public facilities and adjacent streets (See Figure 4.1 for details). In some areas, on street

parking is prevalent. The following list indicates the locations and the estimated public parking count:

1. The Bennett Recreation Center, located about three-quarters of a mile north of I-70 on Converse Road (State Highway 79), includes a gravel parking lot that could accommodate up to 112 parked vehicles. The facility is not fully built out with proposed ball fields and a future outdoor pool on the board for future phases. Currently, the facility rarely has more than fifteen (15) vehicles in the parking lot during the average weekday demonstrating that there is a current excess in parking available. This Study concludes that this excess parking could be utilized for commuter parking until a time when the Recreation Center approaches full build out.

2. The Bennett Community Center is located about one half mile west of Converse Road on Colfax Avenue. The Community Center parking lot is not formally striped; however the front parking lot appears that it could accommodate about 55 vehicles. This facility operates with some daytime programs and community meetings in addition to hosting evening events. The Town plans to improve this lot in 2011.

3. Trupp Park is located northwest of Palmer Avenue and 1st Street. The gravel lot associated with the park could accommodate about 40 parked passenger vehicles. On-street parking also occurs on the gravel shoulder along Palmer Avenue and at on paved 1st Street adjacent to the park. The lot is rarely full as most park users appear to prefer the on street parking near the ball fields.

4. The Bennett High School, middle school and elementary school campus is located along 7th Street and 8th Street in the northeast part of Town. Each school has parking lot areas associated with it and parking also occurs on adjacent public streets. During the day, most school lots are

near capacity. For purposes of this evaluation, the School parking areas were not considered to be appropriate for general public parking. It is also noted that any future expansion of the school campus would likely require evaluation of additional parking needs.

5. The Bennett Library is located on 7th Street across from the school campus. The Library has a modest parking lot with about nine (9) parking spaces.

### Summary

A total of 207 public parking spaces were calculated to exist within the Town of Bennett. Based upon the proposed Parking Plan, the Recreation Center currently provides the best central location to the downtown area with approximately 100 spaces available during weekdays for potential commuter parking.

### Local Special Transit

The Town does support a special transit service that consists of a small 20-person bus that currently operates twice per week on Tuesdays and Fridays. The service takes users to Aurora one of those days for doctor's appointments and on the other day for local services such as grocery shopping and personal appointments. Senior citizens largely utilize the service, but it is available to any local residents.

The service is funded through grants so the level of service is dependent upon funding and fluctuates accordingly. In finding an appropriate funding source, the bus service could be utilized as infrastructure to transport commuters and travelers to and from the parking facilities as they are established.

### Ride Arrangers

The Ride-A-Rangers program is run through DRCOG and available in the Town of Bennett. The program operates as a data base where interested riders can be matched

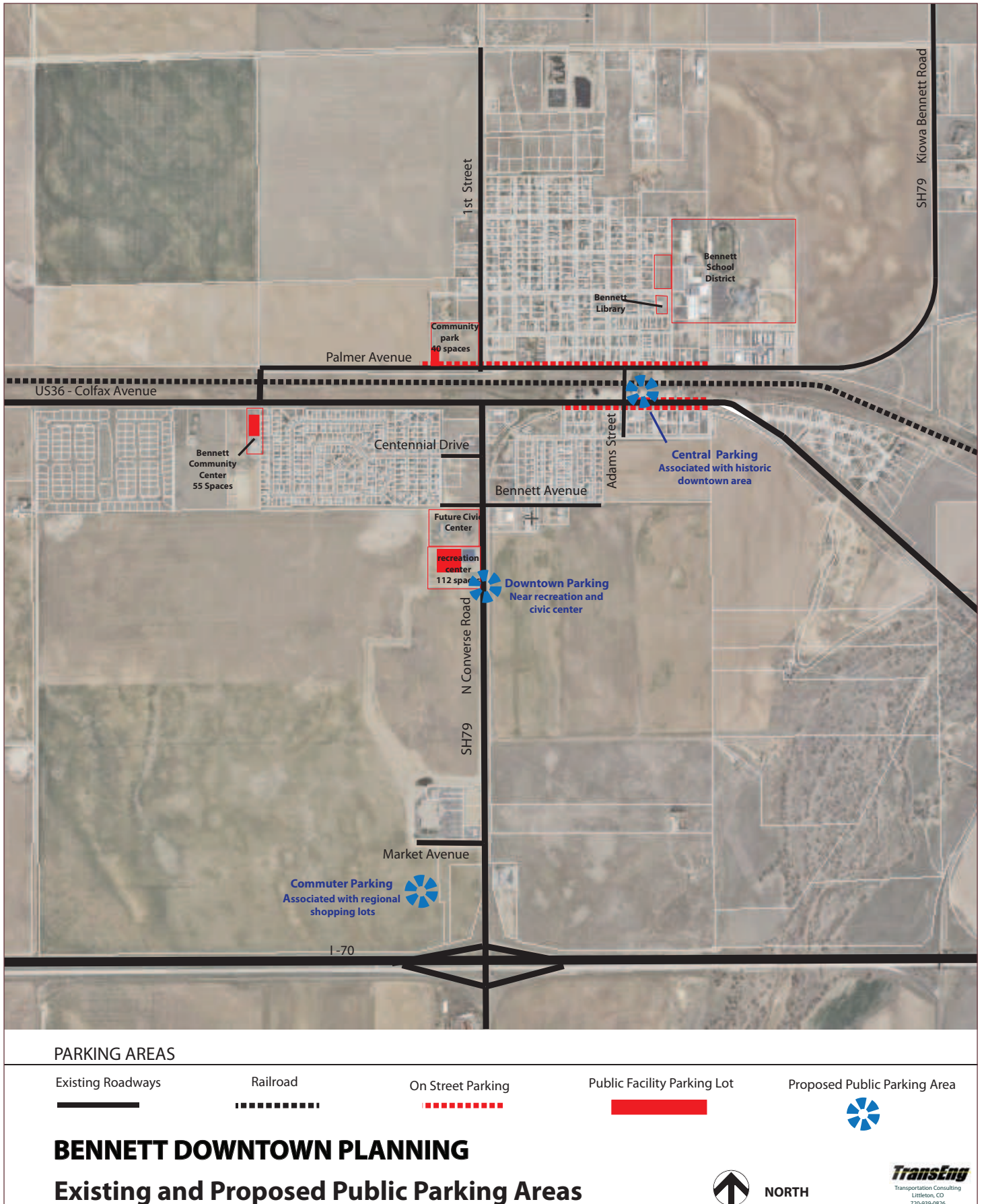


Figure 4.1 Proposed Locations for Parking Facility

with other users with similar travel needs. The program requires riders to enter into the database to get started. Based upon the responses from the questionnaire, there appears to be a demand for ride sharing that far exceeds the current number of people sharing rides (refer to previous Ride Sharing Chart).

## Conclusion

### 1. Parking Plan - Locations and Characteristics

As a result of the Downtown Planning Study, three (3) possible locations were selected for parking facilities as demonstrated in Figure 4.1. The locations were based upon the following characteristics:

- Direct access to the new civic center location near the current Bennett Recreation Center,
- Convenient site location adjacent to I-70 and the SH79 interchange possibly using existing parking at King Soopers or new development in this location,
- Vacant railroad property that is central to the historic commercial center and may serve in a temporary capacity is determined to be economically feasible option.

### 2. Commuter Parking Demand

The parking questionnaire results indicate that approximately 40 people would utilize a commuter parking facility at least part time, if it were available. Assuming that the ride sharing would be in pairs, there is an estimated demand for approximately 20 spaces.

### 3. Trailhead Parking Demand

The downtown trail head parking is designed to be at the proposed civic center location. Staff is unable to accurately predict a parking count for trailhead parking, because this study precedes trail development. Through research with Adams and Arapahoe Counties, there is not a standard parking ratio for trailhead parking and parking counts are determined on a site-by-site basis depending upon numerous variables such as: length of trail; location to housing;

and proximity to other trail heads. The Study concludes that at the time trail design and parking facilities are finalized, a clear determination of trailhead parking demand can be determined.

## Recommendations

### Parking Program

A change in driving behavior takes a concerted effort on behalf of interested drivers, as well as the Town in supporting new driving behavior. This Study concludes that a parking program is necessary that goes beyond merely a parking facility, but addresses education and infrastructure to support new behavior and choices. As outlined above, public education is necessary so drivers are aware of programs such as Ride Arrangers and the Special Transit bus. The program can be initiated and grown through public awareness, signage programs, and program monitoring.

This study is estimating that 20 spaces are required to meet commuter parking demand. Since the parking plan has three (3) possible locations for these 20 spaces, at the time the parking is developed, a calculation of parking demand in the specific location will need to be determined.

### Relationship to Downtown Planning Study

The Parking Plan has a dynamic relationship with the Downtown Planning Study so that as the downtown area develops, the parking will be an integral part of the development. In particular, moving the parking away from the interstate and into the developing mixed use Main Street environment is desirable in bringing large numbers of travelers in the downtown commercial center of Bennett

### Initial Phase

This Study estimates that 20 spaces are required to meet current commuter parking demand. Since the Parking Plan has three (3) possible locations for these 20 spaces, a calculation of parking demand in the specific location will need to be determined at the time the parking facility is implemented. Staff estimates that there is excess parking

in the I-70 location at King Soopers, the Bennett Community Center, and at the Bennett Recreation Center. It is conceivable that designated commuter parking could be developed in all locations as the first phase of this program.

At the time the parking program begins, negotiations with King Soopers, and the Bennett Recreation Center would need to be undertaken to determine their supply as compared to current demand. Additionally, since a commuter parking program is new to the Town of Bennett, monitoring of the actual demand will need to be undertaken with the opportunity to expand parking in the future. Should demand increase or the excess parking be absorbed by the existing facilities, then additional parking facilities could be developed.

As the trailhead parking is needed, these additional spaces could be added to this first phase or the additional demand could trigger the need for expanded parking facilities. Additionally, this study recommends a parking study be conducted to determine the supply and demand for private commercial parking which may impact the design of the proposed parking plan and the analysis conducted in this Downtown Planning Study.

## 5. Downtown Development

### Architectural Character

The Town of Bennett originally developed with the support of the Union Pacific Railroad that bisects and serves the agricultural and commercial communities. The grain silos continue to dominate the landscape giving the Town identity and history. The commercial buildings in the central business district along Palmer Avenue and E. Colfax Avenue have developed since these early days in the Town's history.



Figure 5.2 Grain Silo

The design and aesthetic of these buildings reflect their functionality and the architecture is utilitarian and not elaborate or decorative. The buildings are small in scale and the businesses are generally operated by local owners serving the local community. These properties provide important affordable commercial space for the community and allow entrepreneurs an important starting place in growing a new business.



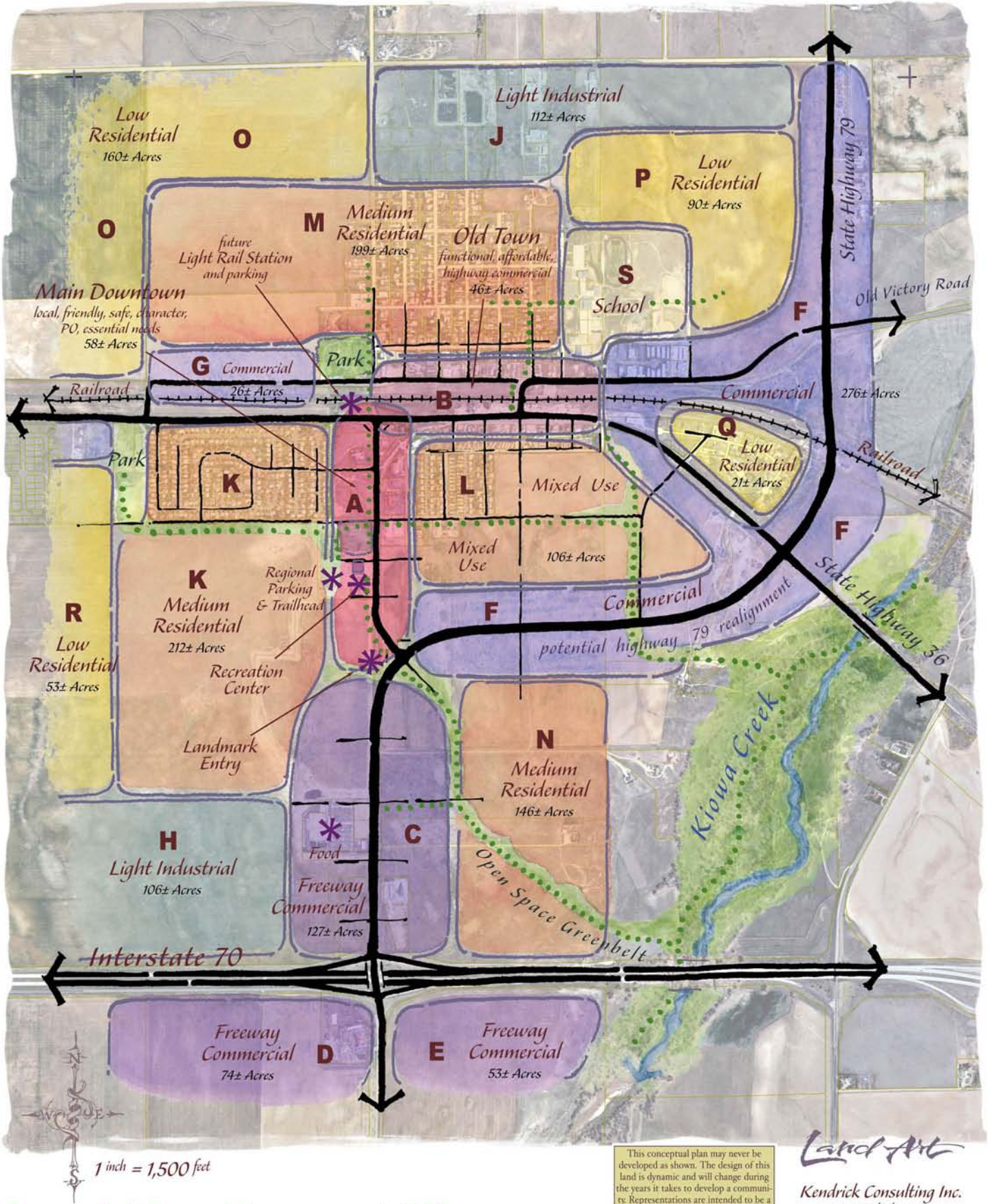
Figure 5.1 Existing Old Town Architecture

These characteristics also apply to the residential communities within the planning area. Homes are generally modest in size and include a mixture of wood frame construction, manufactured, and mobile homes reflecting the need for affordable housing within the community. The residential community consists largely of single family detached housing with a couple of multifamily housing projects in this planning area. The neighborhoods have evolved from the historic center outward to the periphery.

The Town is currently influenced by Interstate 70 that runs east and west and brings a high volume of people through the area. Regional shopping began to develop in the past five (5) years serving the needs of a broader community with businesses such as King Soopers and Conoco. This area is labeled as Freeway Commercial in the Land Use Plan. The buildings are larger in scale than the central business district and their designs are representative of their corporate orientation. Large parking lots that serve the businesses are typical of this regional scale retail development.



Figure 5.3 Typical Town Vernacular



This conceptual plan may never be developed as shown. The design of this land is dynamic and will change during the years it takes to develop a community. Representations are intended to be a catalyst for further study. The Town of Bennett reserves the right to make planning revisions.

*Land Art*  
Kendrick Consulting Inc.  
Regional Planning

# Land Use Concept Plan

Figure 5.4 Proposed Land Use Plan



### Land Use Concept Plan

The land use concept plan addresses future infrastructure and civic improvements while identifying opportunities for higher density development that is orientated to the proposed Main Street and Old Town land use areas. (See Figure 5.4). It addresses the Town's future needs with a central civic/municipal complex with the proposed shared parking facility that accommodates commuters, trail users, and other Main Street uses. To accomplish this, the plan looks to reroute the SH79 so that the existing highway corridor can be converted into a vibrant pedestrian oriented and mixed-use district. The proposed trail network traverses the Town via planned open space corridors and an improved roadway network. Increased residential density near the core of the Town will allow for diverse housing

opportunities that will appeal to both young adults and the increasing retirement age population. Lower density residential opportunities are reserved for the outlying edges of the downtown area. Light Industrial and Commercial uses were incorporated and focused along major highway corridors leading into Town.

### Proposed Land Use Categories

#### 1. Main Street – Land Use Area A

##### Characteristics

Through the public process, old and new residents of Bennett alike expressed their desire for a central gathering place where people can participate in their daily lives with a sense of place that defines their Town. Without a retail



# DOWNTOWN MAINSTREET CONCEPT PLAN



and commercial core, the Town might just be a bedroom community that lacks the dining and living areas that complete a home. Through the public input process, residents expressed a desire for a place where residents and visitors can get essential and discretionary goods and services rather than drive into the metropolitan area.

The Mainstreet Area of the Land Use Plan (Area A) was designed to address this need. The plan focuses attention on a pedestrian oriented environment where accessibility and visibility are key. Retail is designed on a smaller scale with the buildings on the street creating energy and vitality through art, food, music, and entertainment. (See plan and perspective concepts drawings for details.)

## 2. Old Town Commercial-Land Use Area B



### Characteristics

Old Town is the historic commercial center of Bennett. This area is bisected by the railway line where transportation continues to allow easy access to farming goods and services. This historic core continues to be a vital area for affordable and accessible commercial properties. This plan envisions street improvements in keeping with the Main Street themes where sidewalks, street trees, lighting, and parking all create an urban spine that revitalizes this important commercial center.

### Uses and Activities

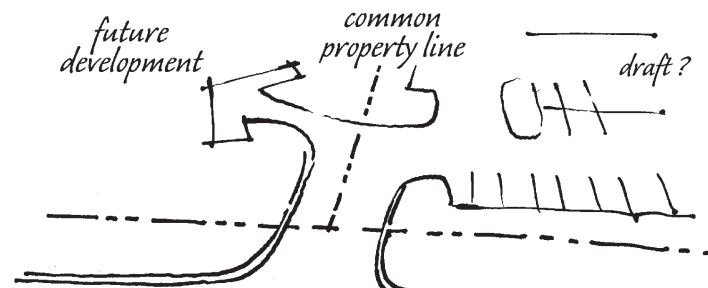
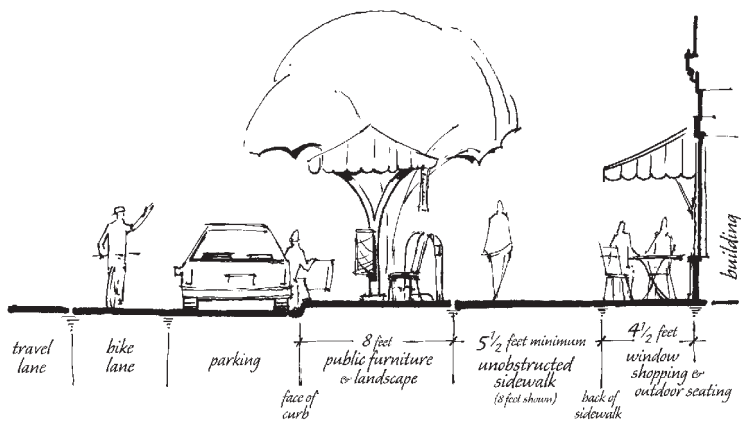
Primary: Retail and convenience stores, restaurants, personal and business services, and professional offices.

Secondary: Residential uses including single family detached, attached and multifamily.

### Uses and Activities

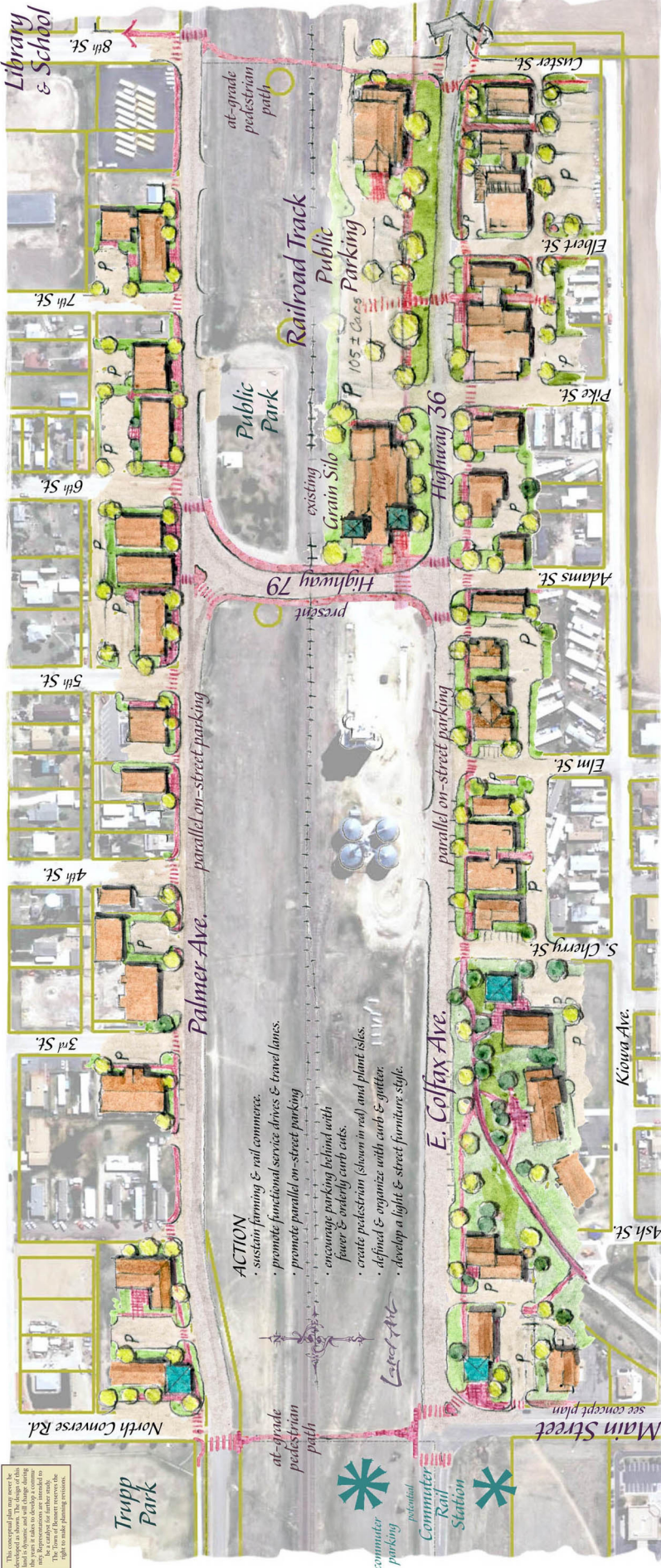
Primary: Small scale retail, restaurant, entertainment, public facilities, recreation, personal and business services, and professional offices. Residential uses include single family attached and small multi-family, live/work units, and vertical mixed use with ground floor retail.

Secondary: N/A



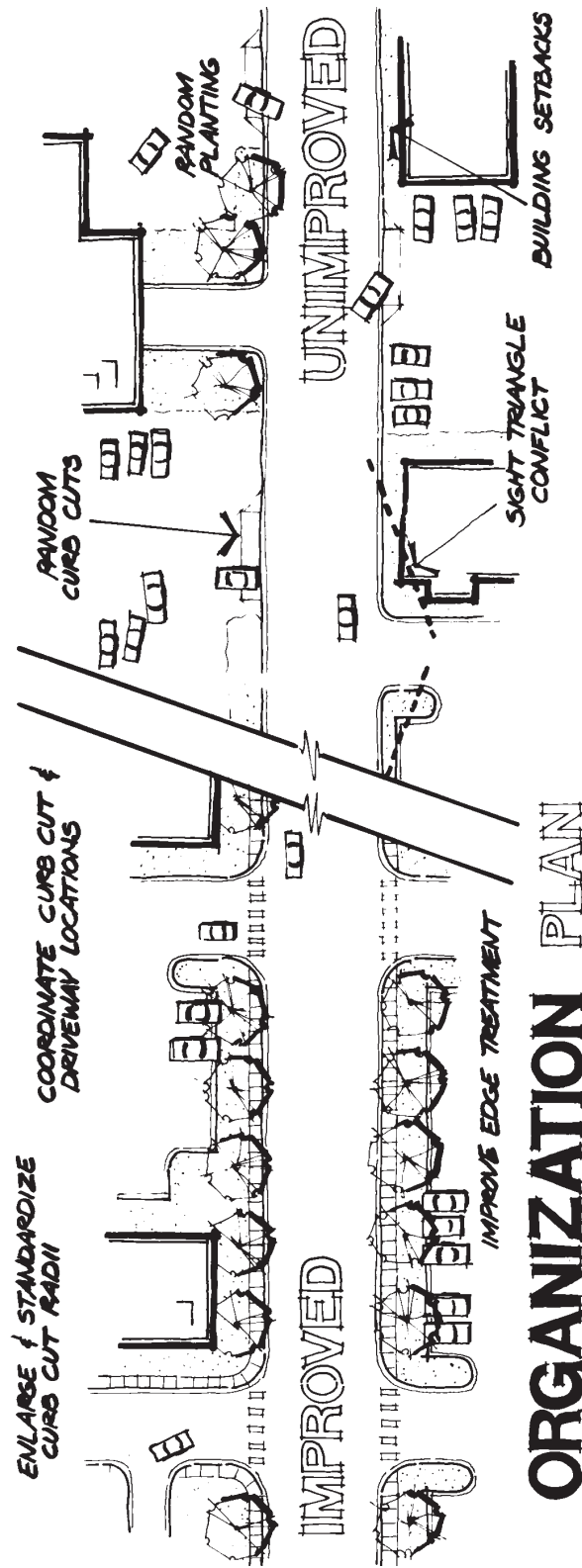
## Shared Curbed Cuts

# OLD TOWN CONCEPT PLAN



This conceptual plan was prepared by the City of Bennett and is not intended to be used for legal purposes. It is not a final plan and is subject to change. All rights reserved.

- ACTION**
- sustain farming & rail commerce.
  - promote functional service drives & travel lanes.
  - promote parallel on-street parking
  - encourage parking behind with fewer & wider curb cuts.
  - create pedestrian (shown in red) and plant isles.
  - define & organize with curb & gutter.
  - develop a light & street furniture style.



# ORGANIZATION PLAN

### 3. Residential Neighborhoods—Land Use Areas K, M, N, O, P, and R

#### Characteristics

Neighborhoods will contain a variety of housing types, combined with non-residential secondary land uses that are complementary and supportive.

The average gross density (i.e., dwelling units per acre) will vary in the Low Residential category up to seven (7) du/acre. Medium Residential will vary up to 12 du/acre. Small multi-family units may be attached floor to ceiling (stacked units) for densities exceeding 12 du/acre. They must comply with all height restrictions and be similar in scale and character to single-family dwellings in order to be compatible with the neighborhoods in which they are to be located.

Secondary uses in Low and Medium Residential are intended to serve the neighborhood and should be developed and operated in harmony with its residential characteristics. Neighborhoods should meet a wide variety of every-day living needs, encourage walking to gathering places and services, and integrate into the larger community. Other supporting land uses, such as parks and recreation areas, religious institutions, and schools may be included in Low and Medium Residential areas.

#### Uses and Activities

Primary: Single family detached, single family attached (duplexes, triplexes, four-plexes, townhouses and row houses) and small multifamily units.

Secondary: Support services such as neighborhood commercial centers with locally oriented shops and services, parks and recreation facilities, places of worship and schools.

### 4. Mixed Use-Land Use Area L

#### Characteristics

Land Use Area L is adjacent to Main Street (Area A), Old Town Bennett (Area B), and the Commercial Mixed Use (Area F). Consequently, Area L will include complementary and supportive services that may include a variety of residential and commercial development.

#### Uses and Activities

Primary: Residential uses include single family detached, attached (duplexes, triplexes, four-plexes, townhouses and row houses) and multi-family. Live/work units are contemplated to accommodate home based and small businesses. Supportive services with locally oriented retail and businesses, parks and recreation facilities, places of worship, and schools

Secondary: N/A

### 5. Freeway Commercial – Land Use Areas C, D and E

#### Characteristics

Freeway commercial land uses accommodate larger scale retail uses and cater to a regional population traveling along the I-70 corridor, as well as, north and south along SH79. These uses typically are served by automobile travel with associated parking.

#### Uses and Activities

Primary: Uses include general merchandise, “big-box” centers, truck stops, auto dealerships, hotels and motels, restaurants, and grocery stores

Secondary: N/A

**6. Commercial Mixed Use Corridor –  
Land Use Areas F and G**

**Characteristics**

These areas are adjacent to the realignment of SH79 and E. Colfax Avenue serving a high volume of vehicular traffic on a regional route including semi-tractor trailers. This area is a concentration of employment including business and light industrial areas. The commercial areas include activities that serve numerous neighborhoods and employment centers. Residential is secondary and needs to be compatible with the commercial uses along this corridor.

**Uses and Activities**

Primary: Commercial uses include grocery stores, medium scale retail such as a department store, convenience stores, personal and business services. Workplace uses such as research and development offices, major service and office center complexes, warehousing and light industrial uses, and educational facilities.

Secondary: Supporting uses that complement the primary uses, such as restaurants, childcare, convenience shopping, and residential uses.

**7. Light Industrial – Land Use Area H and J**

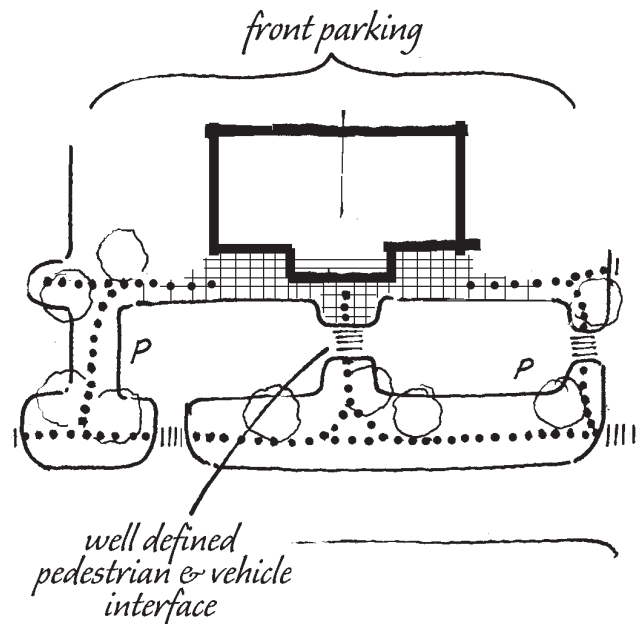
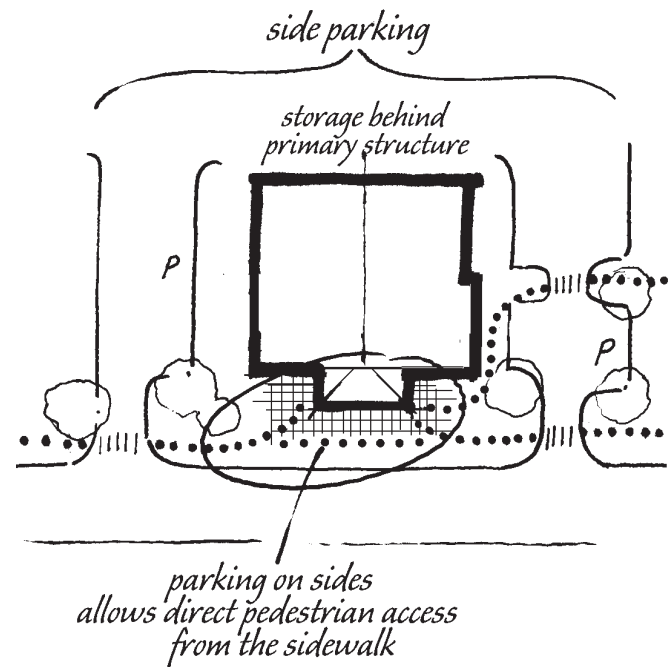
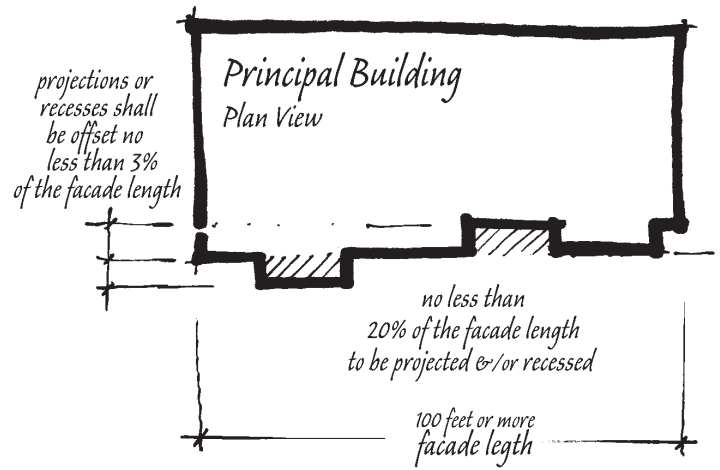
**Characteristics**

The light industrial areas serve as employment centers for the Town through the allowance of a wide variety of land uses that contribute to the employment base. The light industrial centers should integrate buildings, outdoor spaces, and transportation facilities. Minimal dust, fumes, odors, refuse, smoke, vapor, noise, lights, and vibrations extended from these centers.

**Uses and Activities**

Primary: Light industrial uses include warehousing, research and development, educational, and medical institutions.

Secondary: N/A



## 6. Recommended Next Steps

### Zoning Overlay Districts

#### Background

In 2000, the Town of Bennett adopted a new Comprehensive Plan setting out goals and strategies for future development of the Town and surrounding areas. The Plan recommended that the existing central business district be designated as a Special Planning District. This recommendation reflects the fact that many of the properties were developed prior to the adoption of zoning and they may not comply with the current zoning requirements. With the Downtown Planning Study, this area is now the Old Town Area B of the Land Use Plan.

#### 2009 Study

In 2009, the Town undertook an evaluation of the existing zoning for the commercial properties along Palmer Avenue and E. Colfax Avenue in the central business district. The purpose of the evaluation was to address property owner concerns regarding their inability to redevelop or expand their businesses because of the current zoning requirements.

The area under consideration at the time was approximately 12.4 acres in size and straddles the Union Pacific Railroad property on both the north and south sides. On the northern boundary, the area is Palmer Avenue from 4th Street on the west end to 8th Street on the east end. On the southern boundary, the area is E. Colfax Avenue from S. 1st Avenue (Highway 79) on the west to Custer Street on the east.

The study found that properties in area were zoned R-1-Single Family Residential, MH-Mobile Home, C-General Commercial, I-1-Light Industrial, and P-Public. Based upon the current zoning requirements, the following constraints were identified that may make redevelopment difficult:

- Small lot sizes and/or irregularly shaped lots;
- Lack of proper building setback or ability to meet setbacks;
- Lack of consistent off-street parking improvements;
- Existing non-conforming uses; and
- Lack of landscape areas or the ability to provide required landscaping.

(Refer to the Zoning Analysis Table on the next page for a list of the challenges and issues in more detail.)

#### Zoning Conclusion

Through the Downtown Planning Study, the steering committee recommended that a zoning overlay district be developed for the Main Street Area (Area A) and Old Town Bennett (Area B) to expand the work done in 2009 and address zoning issues that support and enhance new development and redevelopment within these two important commercial areas. The recommendation of this Downtown Planning Study is that Area A and B are included in the Special Planning District as a zoning overlay district. This work is a high priority because, the new zoning tools directly impact any future development that may occur in these two (2) areas.

### Zoning Analysis Table

Challenges	Issues
Residential single family homes are zoned Commercial	Mitigation of off-site impacts as new uses develop adjacent to residential homes. May need more refined and specific design language.
Commercial zoning requires a 20% open space and 30% Floor Area Ratio (FAR) for the site	Many of these properties were not developed with these constraints
Commercial zoning requires 15' front, 15' rear and 10' side setback	Many of these properties were not developed with these constraints
Accessory structures also have setback requirements	Same problem. Identify which ones specifically.
Maximum height for primary structures within the Commercial Zone (C) is 50 feet.	Should not be a problem based upon current structures and the existing character of the area.
Maximum height for accessory structures on properties zoned Commercial (C) is 12 feet.	This could be a problems, I think of the service garage on Colfax.
There may be some uses allowed by right or conditional use that are not appropriate in a mixed use area such as this.	Possibly need to identify what those are. Establish a refined list of principle permitted uses and conditional uses for this district.
There are a wide variety of parking conditions including parking adjacent to State Highway, on-street, off-street, unimproved parking.	Need input from CDOT about redevelopment constraints, use of their roadway.
Many properties don't appear to meet the parking standards in terms of surface material or screening requirements.	Need to consider impacts to meeting the existing standards such as: changing gravel parking to pavement and requiring more on site parking.
Community character concerns.	What is the existing character the Town would like to preserve or enhance?
Most properties don't appear to meet the landscaping regulations.	Evaluate the existing landscaping requirements and what they mean for this environment since many sites appear to be out of compliance.

### Financing Strategies

An important outcome of the Downtown Planning Study is the conceptual Mainstreet component of the plan coupled with the Old Town historic commercial center. These components support the small, one-of-a-kind businesses that are seen as the backbone of the Town and establish a context for additional retail and restaurants. With these new possibilities comes the need for financing strategies and community development models to implement these plans as they evolve.

To explore the maturation of a Downtown plan, the Steering Committee visited the Town of Castle Rock, because there are many similarities between where Bennett is currently positioned and how the Town of Castle Rock has grown in the past 10 years. In particular, the committee was interested in the economic development tools of their plan. The results of that visit have helped to shape a vision of utilizing a sound economic development model for the implementation of a master plan. While this study is not a master plan, it informs any future comprehensive planning for this



Downtown Area and the need for a financing strategy.

The following financing tools are considered options in the economic development model:

### **1. Downtown Development Authority (DDA)**

A DDA is a quasi-municipal corporation, authorized by the Board of Trustees and managed by a Board of Directors appointed by the Board of Trustees. It is funded primarily through Tax Increment Financing (TIF), funds generated by the incremental increase of sales and property taxes in the district. These TIF funds, upon creation of a DDA, must be physical or economic, if approved by the Board. The implementation of a development project can be financed by bonds or advances from the Town that are repaid by the TIF. If approved by the Town, and the voters, the DDA can also impose up to five (5) mill property tax for operations of the DDA.

### **2. Urban Renewal Authority (URA)**

Urban renewal authorities are generally established to eliminate blighted areas for development or redevelopment by purchasing, rehabilitating, and selling land for development. A URA can fund real estate development, rehab financing, and infrastructure and is funded through a tax-increment financing on property and/or sales tax.

### **3. Business Improvement District (BID)**

A business improvement district is a quasi-municipal corporation, which supports management, marketing, advocacy, and economic development. A BID can also issue bonds for capital improvements. BIDs are funded through an assessment or mil levy on commercial property.

### **4. Community Development Corporation (CDC)**

A CDC is a grassroots 501©3 nonprofit organization that can help advance real estate and infrastructure improvements. They can provide organizational focus and expertise to advance commercial and housing development. CDC's are able to diversify funding for both operations

and projects through access to charitable and government grants, earning income through services and projects, contracting for services to cities, towns, and other agencies. They can target resources to specific properties and work within and outside of assessment districts or other restrictive boundaries. They can have the flexibility to respond to opportunities that an uncertain market may bring.

### **Financing Conclusion**

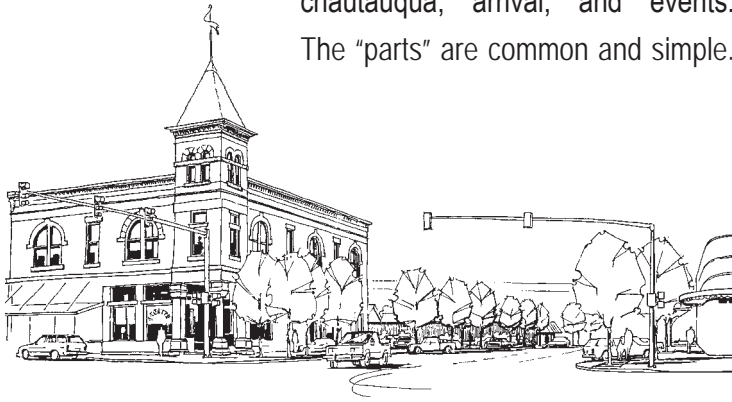
When the Town is ready to implement the Downtown Plan, a key recommendation is to seek technical assistance in creating an appropriate economic development model. The model should address the economic realities at the time of development. This assistance can come through many forms such as organizations like Downtown Colorado Inc (DCI), the Department of Local Affairs and/or PUMA (Progressive Urban Management Associates). Staff has had a preliminary conversation with DCI in order to evaluate the menu of options for technical assistance.

## Design Guidelines

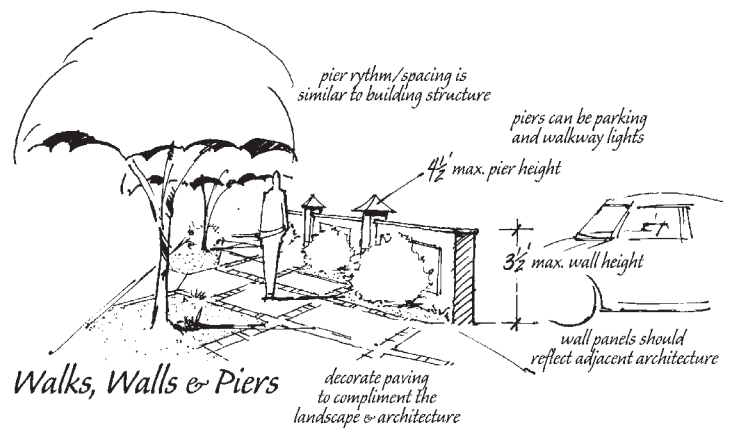
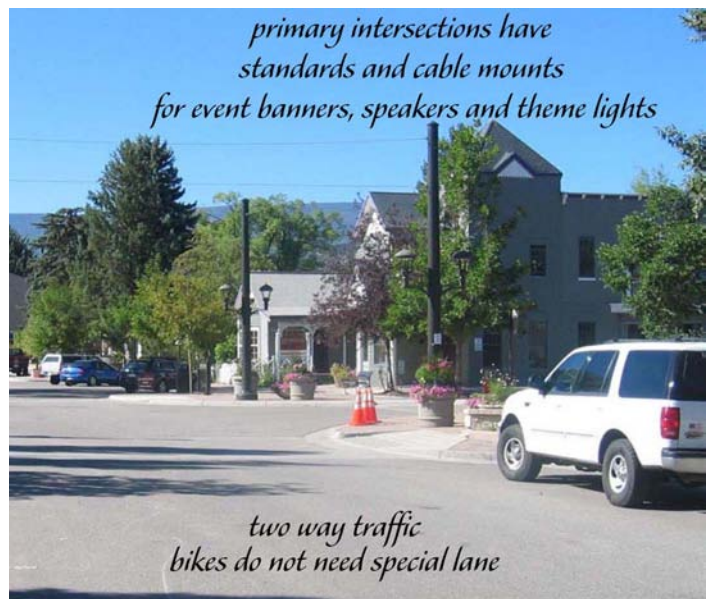
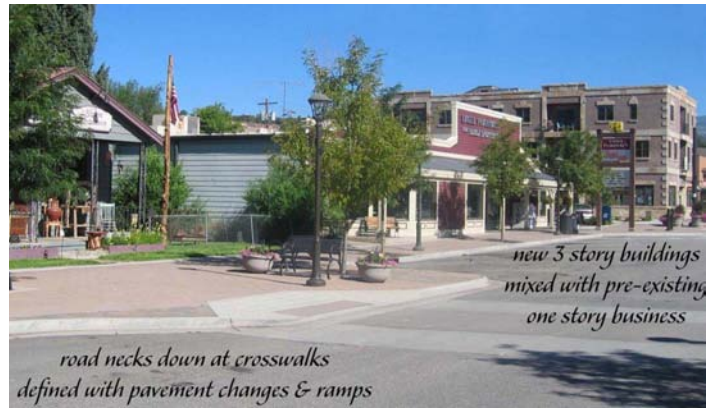
Design guidelines will be fundamental in providing direction to how places work. They should address the Town's strategies for creating a fun, interesting, functional, and flexible environment. In general, they provide a quality benchmark for topics such as: road layouts that prioritize pedestrians; public spaces that are safe and attractive; and buildings that are at an appropriate scale and density to support local services. The following paragraphs concentrate on key elements that should be incorporated into future design guidelines.

### Main Street and Old Town

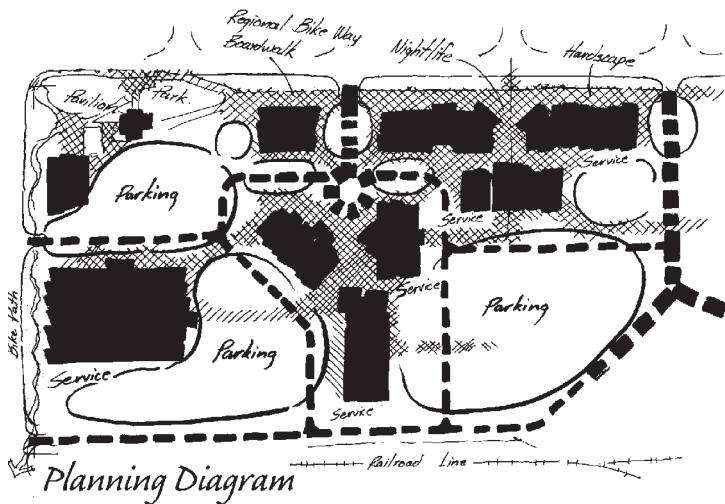
The Main Street should serve as a spine that sets the standard and creates the space for street fairs, parades, display, respite, announcement, chautauqua, arrival, and events. The "parts" are common and simple.



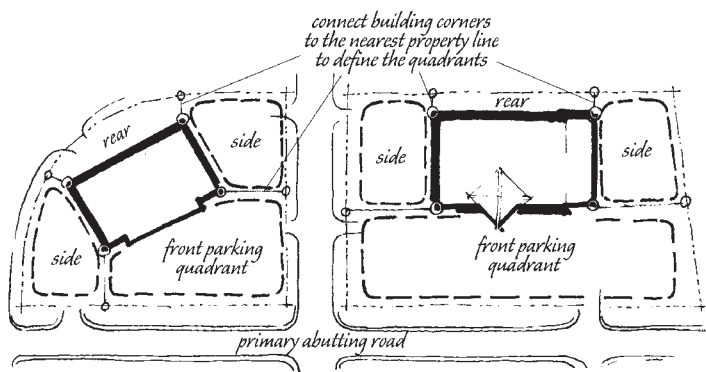
Trees give the street a ceiling for shade and windows for green seasonal color, rustling sound and repetition. Street lights create rhythm and illumination allowing night life to emerge. Benches, tables, water fountains, tree grates, bike racks, trash containers, bollards, kiosks, theme walls, and planters are the street furniture of a public room. The street organizes and controls pedestrians and vehicles in an energetic and enlivening way. Pavement can be artistic and beg attention or can recede in its basic function, depending on the desired outcome.



## Commercial Development Corridors



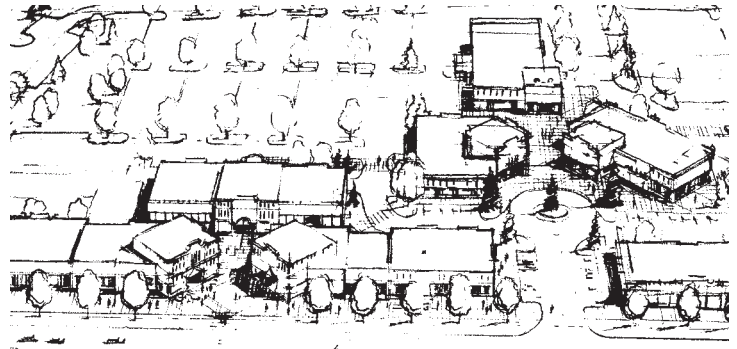
The Freeway Commercial Area is designed to expand the opportunity for regional business activity in Bennett. This area currently serves as the gateway to Bennett and needs to acknowledge and enhance this threshold. Design guidelines need to be developed for this area which consider some of the elements depicted in the following illustrations and come through a public process. In particular, this Use Area needs to provide continuity between the larger scale regional development and the smaller scale commercial and residential areas of Bennett progressing from I-70 along SH79 into Main Street.



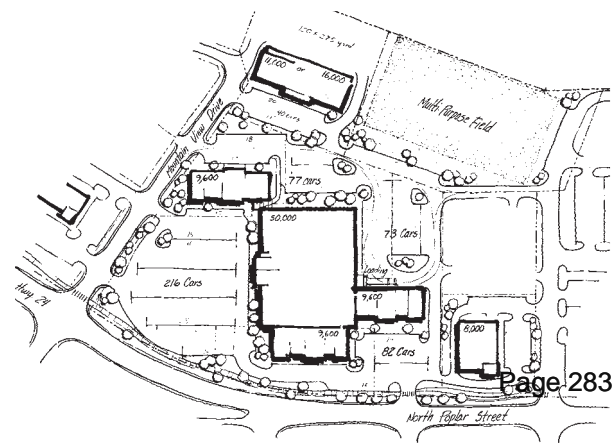
Future elements to be included within the design guidelines for commercial development should include:

- Establish a logical and interconnected system of streets, sidewalks, and pathways that create better orientation, mobility, and safety.

- Buildings should be the dominant visual element seen along the street with parking lots oriented to reduce their visual impact from streets.



- Create human scale relationship between buildings and the pedestrian areas.
- Orient parking lots away from street frontages to reduce their visual impacts with buildings being the dominant visual element along the street.
- Design new buildings to compliment the railroad and agriculture structures that have been a part of Bennett's architectural vernacular.
- Prioritize native landscape materials, design, and irrigation to be appropriate for the rural prairie environment. Ideal plant and ground-cover applications will help shade, protect, and screen, which improve the human experience.
- Coordinate signage keeping it simple in type styles and graphic imagery and not a dominant element in the overall street scene as seen historically.



## Final Thoughts

The Downtown Planning Study has been an important opportunity for the Town to analyze and explore future possibilities for the historic center of Bennett. Because of the convergence of funding partners, this Study has been successful in addressing the important objectives set forth by the Town in terms of transportation, regional trail design, commuting behavior, and a civic center.

Through the public process, old and new residents alike expressed their desire for a central gathering place where people can participate in their daily lives with a sense of place that defines their Town. The proposed Land Use Plan is an important jumping off place for organizing these activities and informing future decision making. This Study is intended to be a first step in the comprehensive plan update as the Town moves forward boldly into creating their future.

The Town leadership is very grateful to Arapahoe and Adams Counties, DRCOG and CSU in supporting these important planning activities and look forward to future opportunities.



# FINAL Planning and Environmental Linkages (PEL) Report

## SH 79 AND KIOWA-BENNETT CORRIDOR PEL STUDY



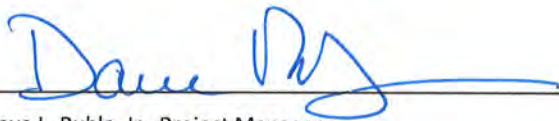


# AGENCY SUPPORT

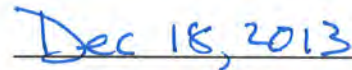
The public agencies that were engaged in the preparation of this Planning and Environmental Linkages (PEL) Study for the State Highway (SH) 79 and Kiowa-Bennett Corridor have expressed their support of this plan, as defined in this *Final Planning and Environmental Linkages Report*, dated November 2013.

- Federal Highway Administration (FHWA) and Colorado Department of Transportation (CDOT) agree that this study fits the criteria for the FHWA PEL planning process. Through this process, the evaluation and findings of the PEL study can be more readily applied to subsequent National Environmental Policy Act (NEPA) evaluations where required. Resource agencies with jurisdiction in the study area have expressed support for the process and willingness to work cooperatively on future NEPA processes, as required, for future projects. (See the "Agency and Public Coordination" section.)
- The agencies will work to complete the NEPA environmental evaluation requirements for the area improvements recommended in this report, as required with funding options and/or facility type. Subsequent to future NEPA clearances, the agencies will work cooperatively to fund and implement the improvements.
- The agencies will develop collaborative transportation partnerships to support the corridor recommendations through the Denver Regional Council of Governments (DRCOG) planning process to help facilitate transportation improvements to this study area.

Written letters of support from the agencies represented on the SH 79 and Kiowa-Bennett Corridor PEL Study Technical Advisory Committee (TAC) have been requested and will be compiled as they are received. The TAC supports the recommendations of this study as indicated by those letters.



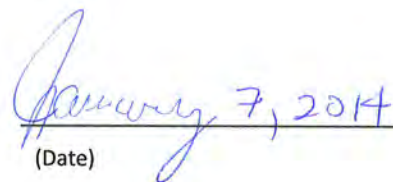
Dave L. Ruble, Jr., Project Manager  
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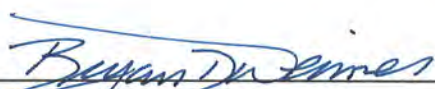
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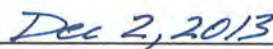
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# LIST OF ACRONYMS AND ABBREVIATIONS

ac - acres

CDOT – Colorado Department of Transportation

CDPHE - Colorado Department of Public Health and Environment

CFR – Code of Federal Regulations

CO – carbon monoxide

CPW – Colorado Parks and Wildlife

DRCOG – Denver Regional Council of Governments

EB – eastbound

EPA - U.S. Environmental Protection Agency

ESA – Environmental Site Assessment

FHWA – Federal Highway Administration

GIS – Geographic Information Systems

IAR – Interstate Access Request

I-70 – Interstate 70

K-B – Kiowa-Bennett Road

LOS – Level of Service

MBTA – Migratory Bird Treaty Act

MIMR – Minor Interchange Modification Report

mph – miles per hour

MSATs – mobile source air toxics

NAC – Noise Abatement Criteria

NB - Northbound

NEPA – National Environmental Policy Act

NR-B – Non Rural Arterial

NRCS – Natural Resources Conservation Service

NRHP – National Register of Historic Places

PEL – Planning and Environmental Linkages

PE – Professional Engineer

PM<sub>10</sub> – particulate matter less than 10 microns in size

PTOE – Professional Transportation Operations Engineer

ROW – right-of-way

SB - Southbound

SH – State Highway

SHPO – State Historic Preservation Officer

TAC – Technical Advisory Committee

UPRR – Union Pacific Railroad

U.S. – United States

US 36 - United States Highway 36

USACE – U.S. Army Corps of Engineers

USFWS – U.S. Fish and Wildlife Service

WB – westbound

WUS - Wetlands and Waters of the U.S.

# INTRODUCTION

## SH 79 and Kiowa-Bennett Corridor PEL Study

This report documents the results of a PEL study conducted to identify and evaluate transportation improvements along the SH 79 and Kiowa-Bennett Road corridors near Bennett, Colorado, north and south of Interstate 70 (I-70). The Town of Bennett partnered with Adams and Arapahoe Counties and CDOT to conduct this detailed transportation study.

This study was conducted following FHWA PEL guidance regarding the integration of transportation planning and the NEPA process, which encourages the use of planning studies to provide information for incorporation into future NEPA documents (23 Code of Federal Regulations [CFR] 450). The goal of these early integrated planning efforts is to streamline subsequent coordination, analysis, and evaluation during the NEPA processes.

This PEL study is intended to provide the framework for the long-term implementation of transportation improvements as funding is available. The technical reports prepared for this PEL study are intended for use in support of future NEPA documentation for phased implementation of the identified transportation projects.

The following NEPA process principles were followed for this PEL study:

- Preparation of a Purpose and Need
- Development and screening of alternatives
- Coordination with federal, state, and local agencies, including concurrence at key decision points to align with those of the NEPA process:
  - Purpose and Need
  - Range of alternatives
  - Screening evaluation criteria
  - Identification of recommended alternatives

A project Purpose and Need was developed in accordance with Council on Environmental Quality NEPA regulations (40 CFR 1506.13). A thorough and inclusive technical and public process was applied to identify a reasonable range of alternatives, as described by the Council on Environmental Quality guidance (40 CFR 1502.14). Reasonable alternatives in NEPA include those that are practical or feasible from the technical and economic standpoint and use common sense, rather than being simply desirable from the standpoint of the applicant. The initial alternatives were screened to eliminate those that did not meet the project Purpose and Need and those that were deemed unreasonable based on an alternatives evaluation process that determined impacts and feasibility considering regional mobility

This report documents the PEL study process conducted to identify and evaluate transportation improvements to the SH 79 and Kiowa-Bennett Road corridors near Bennett, Colorado. The information presented in this report will provide the framework for the long-term implementation of transportation improvements as a resource for future NEPA documentation.

and connectivity, safety, environmental impacts, community impacts, multimodal accommodations, engineering, and cost. Based on the alternatives evaluation, recommended transportation improvements were identified to carry forward into future NEPA processes.

This PEL study report summarizes the findings and recommendations for the SH 79 and Kiowa-Bennett corridor improvements. The *Final Corridor Conditions Assessment Report* (available on the project website [[www.sh79pel.com](http://www.sh79pel.com)] and from project team members) was completed in January 2013 and provides additional information and details regarding the current and anticipated future conditions of the study area with regard to land use, the transportation system, and environmental resources.

## Study Area

SH 79 and Kiowa-Bennett Road provide both local and regional mobility within the study area.

**Figure 1** illustrates the regional nature of SH 79. With the indirect connection to Kiowa-Bennett Road south of I-70 which connects to SH 86 at Kiowa, and south of Kiowa along Elbert Road to US 24, a 75-mile north-south roadway corridor exists. This is the only north-south roadway corridor east of the Denver metro area until SH 71 at Limon, approximately 50 miles east of Bennett.

SH 79 begins at I-70 and continues north, terminating at SH 52, approximately 10 miles east of I-76 and 24 miles north of I-70. SH 79 is the Town of Bennett's most important north/south transportation corridor and Adams County's most important rural transportation corridor that supports regional mobility and economic activity for Bennett. However, regional corridor traffic on SH 79 must maneuver the Town's local street system and an at-grade crossing of the Union Pacific Railroad (UPRR) tracks. The existing SH 79 cross section within the study area consists of a two-lane roadway with turn lanes at intersections and major access points and varying shoulder width. Within downtown Bennett area, a section of the wide roadway shoulder, formerly used for parking, serves as a pedestrian and cyclist route and there are two striped pedestrian crossings signed as school crossings.

**Figure 1: Regional Map**



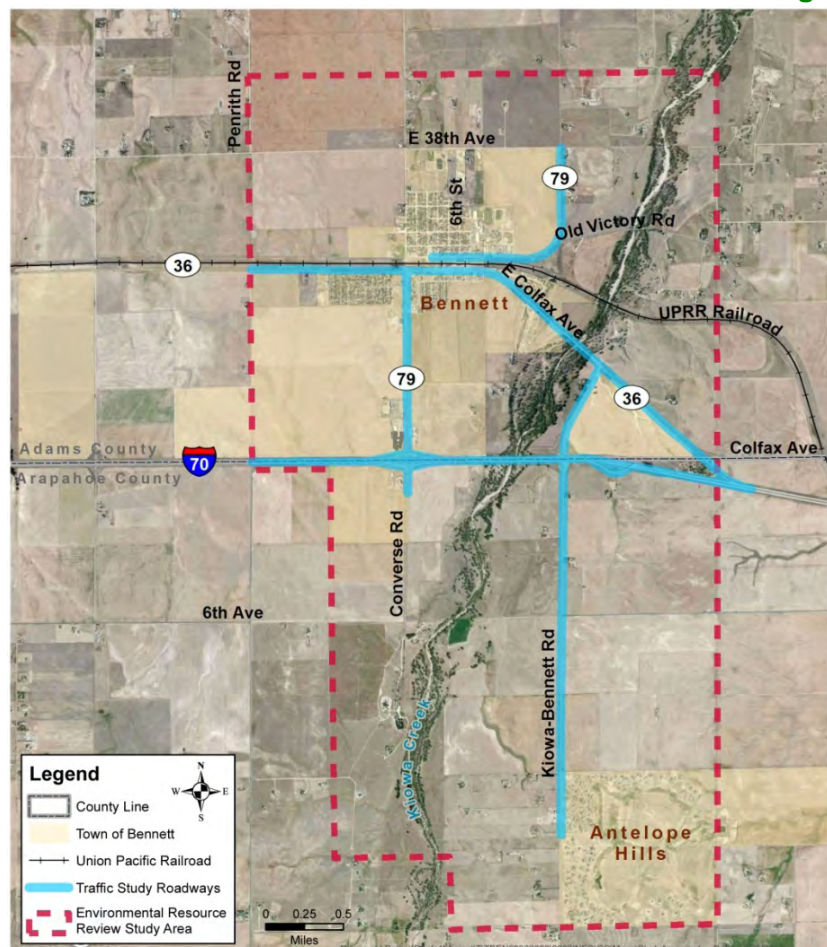


Kiowa-Bennett Road serves as a regional north-south corridor through eastern Arapahoe County. Kiowa-Bennett Road does not have full, direct access to I-70 and traffic traveling between Kiowa-Bennett Road and SH 79 must travel along Colfax Avenue/United States Highway 36 (US 36) and through downtown Bennett. Improving regional connectivity and access to the I-70 corridor will be essential to achieve economic development for eastern Adams and Arapahoe Counties.

The traffic study roadways and environmental resource review study area are illustrated in **Figure 2**. The traffic evaluation includes SH 79 and the existing I-70 interchanges at SH 79, Kiowa-Bennett Road, and Colfax Avenue/US 36. The study area limits include approximately three miles of SH 79 (from I-70 to 38th Avenue north of Bennett), approximately three miles of Kiowa-Bennett Road (from the Antelope Hills neighborhood to Colfax Avenue/US 36 north of I-70), about 3.5 miles of Colfax Avenue/US 36 within the Town of Bennett, and about 3.5 miles of I-70.

The environmental resource review area for the project is defined as the area of most likely physical impacts of corridor transportation improvements. To take into account the potential for indirect or secondary effects to community or environmental resources as a result of the potential improvements, the initial area surrounding the roadway corridors was extended to the back property line of area parcels to be more inclusive. This environmental resource review area is generally bounded by Penrith Road to the west, the southern edge of Antelope Hills St to the south, Colfax Avenue/US 36 and County Road 2 to the east, and 38th Avenue to the north.

**Figure 2: Study Area**



## Logical Termini

The study area boundaries meet the criteria for logical termini and independent utility. The FHWA guidance on NEPA and transportation decision-making includes a policy regarding development of logical project termini, which are defined as rational end points for a transportation improvement and for environmental review. In order to streamline subsequent analysis during NEPA, the PEL study will apply this FHWA policy. This guidance states that transportation projects must consider a “whole” or integrated project, satisfy an identified need, and be considered in the context of the local area. Otherwise, proposed improvements may only partially satisfy the need or may cause unexpected adverse impacts. An issue of “segmentation” may also occur when a transportation need extends throughout an entire corridor but environmental issues are evaluated for only a smaller segment of the corridor.

In order to ensure meaningful evaluation of alternatives and to avoid commitments to transportation improvements before they are fully evaluated, the evaluated improvements must:

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope;
- Have independent utility; i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made; and
- Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

There is a drop in traffic volumes outside the proposed study area boundaries, except on I-70 to the west, which experiences a steady increase in traffic closer to the Denver metropolitan area. A concentrated mixture of residential, commercial, industrial, and public/institutional properties is located within the study area boundaries, surrounded by predominantly agricultural land. This area is planned for urban development characterized by transportation access with rural land uses continuing to surround the study area. The traffic volume and land use data demonstrate that the area incorporates logical termini. The proposed study area is of sufficient length to address environmental matters on a broad scope. Future transportation expenditures to justify the current investment would not be required given the locations of the logical termini along I-70 from Penrith Road to US 36 and on SH 79 and Kiowa-Bennett Road between the Antelope Hills subdivision and 38th Avenue. Therefore, this project demonstrates independent utility.

In addition, no other reasonably foreseeable transportation projects would be restricted by the recommended improvements of this study.

## Purpose and Need Statement

The Town of Bennett in partnership with Adams and Arapahoe Counties and CDOT is preparing this PEL study to identify and assess potential transportation improvements along the SH 79 and Kiowa-Bennett Road corridors. Thorough documentation of the process and recommendations is a critical element of the PEL process so the decisions can be used in future NEPA processes, as applicable. This Purpose and Need and project goals were developed in coordination with agency stakeholders with review by the general public.

The specific needs, summarized in this section and shown in **Figure 3**, are based on the evaluation documented in this report and in the *Final Corridor Conditions Assessment Report* (January 2013). Land use and traffic information for the study area is provided in **Appendix A**.

Figure 3: Display of Area Needs



**LEGEND**

**Mobility and Connectivity:**

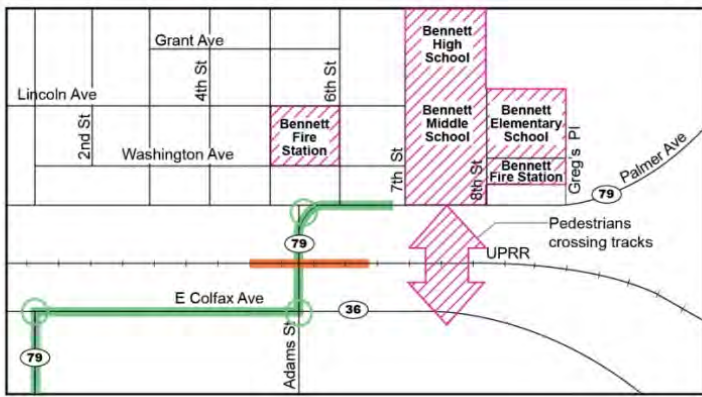
- Lack of direct I-70 access
- Lack of regional connectivity
- Oversize vehicle and hazardous materials route through downtown

**Safety:**

- \* Poor horizontal or vertical sight distance
- ⊗ Sharp turns difficult for oversize trucks to maneuver
- No shoulders

**Railroad Crossing Conflict:**

- Trains block SH 79/Adams Street crossing causing motorist delays
- ▨ Schools and emergency services located north of UPRR but facilities also serve areas to the south of UPRR



### Purpose of the Project

The purpose of the SH 79 and Kiowa-Bennett corridor project is to improve regional connectivity, reduce conflict and delay at the SH 79 at-grade crossing of UPRR, and address safety concerns along the major corridors within the study area for existing and future conditions.

## Need for the Proposed Action

The SH 79 and Kiowa-Bennett Road corridors have regional operational deficiencies, including a lack of connectivity to I-70. Both roadways are important transportation corridors supporting mobility and economic activity in Bennett and Adams and Arapahoe Counties for existing and future land use and transportation demand conditions.

Improvements are needed to:

- Improve regional mobility and connectivity
- Reduce conflict and delay at the at-grade railroad crossing
- Address safety concerns

### *Regional Mobility and Connectivity*

SH 79 begins at the I-70 interchange, travels through the Town of Bennett with a UPRR at-grade crossing north of Colfax Avenue/US 36, and ends at SH 52 approximately 24 miles north of I-70. SH 79 is the Town of Bennett's most important north/south transportation corridor and Adams County's most important rural transportation corridor that supports regional mobility for Adams County and economic activity for the Town of Bennett. However, regional corridor traffic must maneuver the Town's local street system and an at-grade crossing of the UPRR tracks.

Kiowa-Bennett Road serves as a regional north-south corridor through eastern Arapahoe County. There are partial movement interchanges at Kiowa-Bennett Road and Colfax Avenue/US 36 along I-70 east of Bennett. Traffic traveling between Kiowa-Bennett Road and SH 79 must travel along Colfax Avenue / US 36 and through downtown Bennett. Improving regional connectivity and access to I-70 is essential to achieve economic development for eastern Adams and Arapahoe Counties.

Based on estimates and projections presented in the *2012 Town of Bennett Comprehensive Plan*, significant growth is projected between 2010 and 2035 for the eastern I-70 corridor, which includes the study area. The eastern I-70 corridor is estimated to grow by 6,454 housing units and 2,568 new jobs. The study area is well-positioned to capture a considerable portion of this growth, as the needed water and sanitary sewer systems are either available or planned by the Town of Bennett. This growth will lead to the inevitable increase in demands on the public infrastructure, especially streets and highways.

I-70 is the major east-west freeway in Colorado and rural communities originally focused on the UPRR line have grown along this highway spine. I-70 carries approximately 15,000 vehicles per day within the study area. SH 79 north of the UPRR crossing in downtown Bennett carries nearly 4,200 vehicles per day as measured by traffic counts collected in 2012. By 2035, the average daily traffic on SH 79 in downtown Bennett is expected to increase about 65% to approximately 6,300 vehicles per day.

SH 79 through Bennett is frequently used by heavy trucks, including those carrying oversize loads and hazardous materials. The large trucks are required to maneuver the tight turns at the UPRR crossing, which creates undesirable conditions within downtown Bennett, such as traffic congestion and increased noise and emissions.

The locations of Denver International Airport and Front Range Airport limit north-south arterial continuity east of E-470 until Kiowa-Bennett Road, which provides north-south continuity through Arapahoe County. As residential and commercial growth continues along the Front Range, Kiowa-Bennett Road will increasingly become a popular north-south alternative to I-25 and E-470.

Connecting traffic movements between SH 79 and Kiowa-Bennett Road more efficiently will provide an efficient connection between people and goods in the region to accommodate planned economic development and to be more congruent with the existing and future land uses.

The limitations of the regional roadway continuity and need for more efficient regional connections has been recognized in several transportation studies:

- The *Arapahoe County 2035 Transportation Plan (2010)* evaluated the regional benefits of connecting Kiowa-Bennett Road with SH 79 along a more direct route near Bennett. The adopted Transportation Plan includes a study for the location of potential realignment of Kiowa-Bennett Road and I-70 interchange improvements.
- The *I-70 Corridor Access Planning Summary Report (2008)* documents the support of Adams County, Arapahoe County, the Town of Bennett, and the Town of Strasburg for evaluation of potential road and interchange improvements to create an improved north-south corridor in the vicinity of SH 79 and Kiowa-Bennett Road.
- The *SH 83–86 Corridor Optimization Plan (2004)*, commissioned by CDOT, clearly identifies the local and regional importance of a more direct and efficient Kiowa-Bennett Road and SH 79 connection near Bennett. Thirteen agencies were involved in the development of the plan, including CDOT, DRCOG, Town of Bennett, Arapahoe County, Eastern Colorado Council of Local Governments, City of Aurora, as well as the Town of Kiowa, Elbert County, Town of Parker, El Paso County, Douglas County, Town of Castle Rock, and Town of Elizabeth. A key recommendation of the study is the paving, upgrading, and improving of Kiowa-Bennett Road to provide a continuous, all-weather facility with new alignments near Bennett to SH 79 to fill in a large north-south gap in the regional transportation system.

These plans demonstrate a long-standing desire for an interregional corridor that provides mobility and resolves mobility concerns in the study area.

### ***Railroad Crossing Conflict and Delay***

Currently, the UPRR operates the Limon Subdivision rail line from Denver to Topeka, Kansas through the Town of Bennett. The Limon Subdivision consists of one main track and a siding track extending 0.4 miles past Palmer Avenue. The siding track is primarily used for trains to pass, but it can be used to store cars for the Farmers co-op facilities during the harvest season or for other railroad uses. There is also a spur track serving the co-op facilities east of the SH 79 at-grade crossing, which is utilized seasonally. At the SH 79 at-grade rail crossing, the main track is controlled with gates and lights and the siding track has reflectorized crossbucks and yield signs. At the Palmer Avenue at-grade rail crossing west of the downtown area, the crossing is controlled with gates and lights.

UPRR operates an average of 18 freight trains per day through the Town. With the projected steady growth of the railroad industry expected by UPRR through 2035, it is conceivable that the UPRR will add additional capacity on the Limon Subdivision to accommodate projected rail traffic growth, which could consist of one or two additional main line tracks. It is also possible that the UPRR could extend the existing Bennett siding to accommodate longer trains on the Limon Subdivision.

CDOT traffic data indicates that truck traffic on SH 79 at the UPRR crossing is about 10 percent of the total traffic with an average of 300 single unit and combination trucks per day. The amount of heavy truck traffic and substandard geometry of SH 79 through town with the at-grade crossing in the center of Bennett results in localized congestion and regional mobility issues. With the anticipated growth in future rail traffic reported by UPRR, the potential for truck and train conflicts will only increase. It is fully

developed surrounding the crossing and a rail-highway grade separation at the existing crossing location would be highly impactful to residents and businesses within downtown Bennett.

Bennett Elementary School, Middle School, and High School are located in the eastern section of downtown Bennett and north of the UPRR railroad tracks (see **Figure 3**). Residential areas are located south of the UPRR tracks with new residential areas expected south of the tracks with future development. The SH 79 railroad crossing is congested during the school ingress and egress periods with parents dropping off children, high school students driving to school, school buses, and many children walking across the tracks. Pedestrians are frequently observed illegally crossing the railroad tracks at locations east of SH 79/Adams Street as shortcuts to the schools. According to UPRR, trains traverse the tracks through Bennett with a typical number of daily train movements of nine through trains during the day and nine through trains during the evening.

The school buses are required by law to stop at the railroad crossing to look down the tracks. However, sight distance is a problem due to the siding track and co-op building location. Many of the side street intersections, such as Palmer Avenue and 6th Street, are blocked with the congestion surrounding the railroad crossing. Traffic in the crossing area is also busy mid-day during the High School lunch period as students rush to get lunch and get back to school during their relatively short break.

Freight trains frequently block Adams Street causing motorist delays for extended periods of time with limited options for alternate routes across the tracks. To avoid the congestion or a train at the SH 79 crossing, some drivers travel west to cross the tracks at the Palmer Avenue railroad crossing. Drivers have been observed speeding along Palmer Avenue trying to beat a train approaching from the east.

The *2035 DRCOG Metro Vision Regional Transportation Plan* adopted in February 2011 includes a grade separation at the SH 79 and UPRR at-grade crossing in Bennett. Inclusion of this grade separation in the plan is based on the crossing being located on the regional highway network, delay to auto and truck traffic, and safety concerns related to emergency services delay at the at-grade railroad crossings.

The Town of Bennett completed the *Bennett Railroad Grade Separation Preliminary Feasibility Study* (2008) to evaluate the general feasibility of a railroad grade separated crossing of the UPRR in the vicinity of Bennett. The study showed that constructing a highway-railroad grade separation in Bennett would provide substantial time savings and safety benefit for local and regional traffic on SH 79. Area transportation projects that would increase the traffic volume on SH 79 locally or regionally would only strengthen the need for a highway-railroad grade separation.

### **Safety Concerns**

The Bennett Fire Rescue Department is located north of Palmer Avenue and east of 8th Street (see **Figure 3**). This fire station serves the area south of the railroad tracks as well as south of I-70. The principal fire and rescue equipment is located at the station at 5th Street and Washington Avenue, north of the railroad tracks. The emergency personnel cross the railroad tracks at SH 79 many times each day responding to various emergencies within the region. For emergencies south of I-70, the partial movement interchange at I-70 and Kiowa-Bennett Road increases the time for responders accessing westbound I-70 to travel to the hospitals within the Denver metropolitan area.

SH 79 through Bennett is designated as an oversize load route by CDOT and a hazardous materials route by the Department of Public Safety. SH 79 is also a primary agriculture and commercial trucking route. The tight turns to follow SH 79 through downtown Bennett are difficult for the large trucks to negotiate and the resulting congestion contributes to safety concerns with truck and passenger vehicle conflicts.

The vast majority of roadways within the study area do not have sidewalks and most do not have shoulders of more than four feet in width. The sidewalks often are located on only one side of a roadway and lack connectivity throughout the study area. This condition leads to safety concerns with pedestrians walking in the roadway travel lanes or taking risks at unsafe crossing locations. As previously noted, pedestrians have been observed illegally crossing the railroad tracks at various locations outside the SH 79/Adams Street crossing.

Kiowa-Bennett Road lacks paved shoulders between 6th Avenue and I-70. Paved shoulders with adequate width for bicyclists were recommended in the *Arapahoe County 2035 Transportation Plan* (2010) to improve traveler safety with the increase in recovery area and area for passing farm equipment and postal vehicles, as well as accommodating space for bicyclists.

In addition to shoulder width, other roadway deficiencies within the study area create safety concerns. Inadequate sight distance is noted at SH 79 and Old Victory Road with the curve south of the intersection. Sight distance at the eastbound I-70 off ramp at the SH 79 interchange has been identified as a safety concern at the stop-controlled intersection. The higher future traffic volumes associated with projected growth will likely exacerbate these safety concerns associated with the existing roadway network.

## Project Goals

The objectives of the improvements should:

- Avoid and minimize environmental impacts
- Enhance economic opportunities to support area viability
- Support local and regional plans
- Balance mobility and access
- Accommodate multimodal connections

## Planning Context

A number of plans have been developed that relate to the study area, including plans for the adjacent land use, local transportation plans, and statewide plans. Previous local and regional plans that were considered during the alternatives development process include:

- *The Town of Bennett Downtown Planning Study* (2010)
- *2012 Town of Bennett Comprehensive Plan* (2012)
- *Bennett Regional Trail Plan* (2011)
- *Adams County Transportation Plan* (2012)
- *Arapahoe County Comprehensive Plan* (2001)
- *Arapahoe County 2035 Transportation Plan* (2010)
- *Arapahoe County Open Space Master Plan* (2010)
- *I-70 Corridor Economic Assessment* (2011)
- *2035 Metro Vision Regional Transportation Plan* (2011)
- *2035 Statewide Transportation Plan* (2011)

Proposed transportation improvements along SH 79 and Kiowa-Bennett Road are consistent with local and regional plans. Specific roadway improvements are not included in DRCOG's *Fiscally Constrained 2035 Regional Transportation Plan*. The Kiowa-Bennett Road bridge over I-70 is on the Colorado Bridge Enterprise list as eligible for bridge repair/rehabilitation with FASTER funding, although it has not been included in the current bond program. The bridge improvements are currently being pre-scoped for cost and construction issues and may be programmed in the future. The realignment of SH 79 with a grade separation at the UPRR is included in the *2012 Town of Bennett Comprehensive Plan* and *Adams County Transportation Plan*. Improved connectivity for Kiowa-Bennett Road at I-70 is included in the *Arapahoe County 2035 Transportation Plan*.



# ALTERNATIVES DEVELOPMENT AND ANALYSIS

The alternatives development and evaluation process identified a broad range of improvement alternatives and screened them to yield short- and long-term projects that will be more thoroughly evaluated with future NEPA documentation.

An objective of the PEL study was to work with stakeholders to determine the short-term and long-term transportation needs of the SH 79 and Kiowa-Bennett Road corridors around the Bennett area, to address the increasing congestion and safety issues, and to identify transportation improvement alternatives that balance anticipated access needs with regional mobility and connectivity. The alternatives development and evaluation process included developing screening criteria based on the Purpose and Need, developing a range of conceptual alternatives, and documenting the elimination of alternatives to limit the need for reconsideration during future NEPA processes.

General alternative concepts were developed and subjected to a Level 1 “fatal flaw” screening to eliminate alternatives that do not meet the Purpose and Need. Alternatives from the Level 1 screening that were recommended for further evaluation were refined to complete additional and more detailed analyses to determine how well each alternative met the Purpose and Need elements, to compare the performance of each alternative against the evaluation criteria, and to identify what impacts each alternative would have. The alternatives remaining after the Level 2 evaluation were further refined through conceptual design in Level 3 for final improvement recommendations.

During the project initiation period, baseline data were collected for the physical, operational, and environmental conditions of the study area. This information led to the development of the Purpose and Need and Project Goals, presented earlier in this report.

Evaluation criteria were established for the Level 1 and Level 2 screening prior to the development of alternatives. The project TAC, comprised of Adams County, Arapahoe County, Town of Bennett, CDOT, FHWA, and DRCOG representatives, participated in the development of evaluation criteria and ultimately concurred with the evaluation criteria in accordance with the chartering agreement established at the beginning of the PEL process. The TAC members also concurred with the Purpose and Needs and Project Goals.

## Initial Alternatives Development

The initial alternative concepts were developed to address the study area’s primary issues identified in the Purpose and Need, including the lack of regional connectivity and access along SH 79 through the study area and from Kiowa-Bennett Road to I-70, concerns about the hazardous materials route and oversized vehicles route through downtown Bennett, and concerns regarding pedestrian, vehicles, and heavy truck conflicts at the at-grade railroad crossing.

The initial alternative concepts considered for the SH 79 and Kiowa-Bennett Road corridors were developed based on input from the TAC, public input, and the technical input of the project team. Overall, the alternatives focused on removing regional highway and heavy truck traffic from downtown Bennett, providing increased connectivity along SH 79 and Kiowa-Bennett Road, and improving mobility and safety at the SH 79 railroad crossing by providing a grade-separated crossing.

## No Action Alternative

The No Action alternative is included as a means of comparison to the operational benefits that would result from potential improvements. Under the No Action alternative, only improvements that are already planned and funded by CDOT, the Counties, or municipalities are included.

There are several operational and maintenance projects funded within the study area, including the resurfacing of Colfax Avenue/US 36 and restriping of SH 79 within the area north of the I-70 interchange. A new multi-use path along Kiowa-Creek Road from Antelope Hills to 6th Avenue is currently being constructed and planning is underway for the section north of 6th Avenue. The Kiowa-Bennett Road bridge over I-70 is on the Colorado Bridge Enterprise list as eligible for bridge repair/rehabilitation with FASTER funding, although it has not been included in the current bond program. Currently, there are no planned transportation capacity improvement projects within the study area. No potential improvements related to this study are included in the No Action alternative.

The following projects, located west of the study area, were included in the travel demand modeling for the No Action Alternative. These projects are described in detail in the *SH 79 PEL Corridor Conditions Assessment Report*. These projects are fiscally-constrained projects included in the *2035 DRCOG Regional Transportation Plan*.

- 56th Ave from E-470 to Imboden Road: Widening from 2 lanes to 6 lanes
- Imboden Road from 48th Avenue to 56th Avenue: Widening from 2 lanes to 6 lanes
- 48th Avenue from Imboden Road to Quail Run Road: Widening from 2 lanes to 6 lanes
- Quail Run Road from Colfax Ave to 48th Avenue: New 6-lane major arterial
- Watkins Road from Quincy Avenue to I-70: Widening from 2 lanes to 6 lanes
- Quincy Avenue from Hayesmount Road to Watkins Road: Widen from 2 lanes to 6 lanes

In addition, DRCOG administers an annual Transportation Improvement Survey intended to gather information from member governments regarding planned capacity-related projects on minor and collector roadways. The following projects were identified during this process in the area surrounding the study area and are included in the travel demand modeling for the No Action alternative.

- 38th Avenue from Imboden Road to Manila Road: New 4-lane collector
- Manila Road from 48th Ave to I-70: Widening from 2 lanes to 4 lanes
- 6th Avenue from Powhaton Road to Watkins Road: New 4-lane minor arterial

## Level 1 (Purpose and Need) Alternatives Screening

Level 1 screening identified a range of improvements that would meet the project Purpose and Need, and eliminated any concepts that had “fatal flaws” (that did not meet Purpose and Need).

Level 1 screening criteria were developed to screen concepts in the following areas: regional mobility and connectivity, railroad conflict and delay, and safety. Alternative concepts were evaluated with a

“Yes” or “No” answer to the following questions to demonstrate each alternative’s ability to meet the Purpose and Need.

- **Regional Mobility and Connectivity:**
  - Does the alternative improve access between I-70 and Kiowa-Bennett Road?
  - Does the alternative reduce travel time along SH 79 between I-70 and 38<sup>th</sup> Avenue?
  - Does the alternative reduce travel time between Kiowa-Bennett Road south of I-70 and SH 79 north of Bennett?
  - Does the alternative accommodate trucks along the SH 79 and Kiowa-Bennett corridors in a safe and reliable manner?
- **Railroad Conflict and Delay:**
  - Will the alternative reduce the number of vehicles crossing at the existing at-grade railroad crossing on SH 79/Adams Street?
- **Safety Concerns:**
  - Will the alternative improve the reliability of emergency response time?
  - Will the alternative improve travel safety for students of Bennett Schools?

An alternative with a “No” answer to any of the above questions was considered to not meet the Purpose and Need and was eliminated.

## Level 1 Alternatives

Based on the study area setting and the desired improvements described in the Purpose and Need, ten concepts, in addition to the No Action alternative, were considered. Larger illustrations of the Level 1 alternatives are included in **Appendix B**. The alternative numbers were assigned randomly and do not indicate any preferences or priorities.

### *Alternative 1—East Railroad Crossing with Full Kiowa-Bennett Road Diamond Interchange*



This alternative consists of realigning SH 79 south of downtown Bennett, which is consistent with the Town’s local planning efforts, so that a mixed use commercial area can be developed in the future. SH 79 would be grade-separated at a new UPRR crossing east of Bennett, and would return to its existing alignment near Old Victory Road.

The SH 79 and I-70 interchange would be reconstructed to improve the existing sight distance issues and accommodate a four lane section. The existing SH 79 alignment through downtown Bennett would be converted to local town streets. The Kiowa-Bennett Road and I-70 interchange would be reconstructed to provide full ramp movements for both directions on and off the freeway.

This alternative was considered because it would provide improved access between I-70 and Kiowa-Bennett Road with a full interchange configuration at Kiowa-Bennett Road and may reduce travel time along SH 79 and Kiowa-Bennett Road through the study area, while reducing railroad conflict and delay at the at-grade crossing and addressing safety concerns.

### Alternative 2—East Railroad Crossing with Split Kiowa-Bennett Road Diamond Interchange



This alternative consists of the same roadway configuration as Alternative 1, providing similar connectivity and safety benefits with the railroad grade separation, except with a split diamond configuration with ramp connections between the SH 79 and Kiowa-Bennett Road interchanges at I-70. The SH 79 and I-70 interchange and Kiowa-Bennett Road and I-70 interchange would be reconstructed with the new ramp connections.

This alternative was considered because it may provide similar connectivity and safety benefits as Alternative 1 and also provide increased distance between ramp merge and diverge points on I-70 with the split diamond interchange configuration, providing the ramp spacing to meet FHWA rural guidelines. The ramp connection roadways between the SH 79 and Kiowa-Bennett Road interchange may also provide increased access for development and local traffic circulation.

### Alternative 3—East Railroad Crossing with West Kiowa-Bennett Road Interchange Alignment



This alternative consists of the same SH 79 realignment south of downtown Bennett as Alternative 1, providing similar connectivity and safety benefits with the railroad grade separation. The SH 79 and I-70 interchange would be reconstructed to improve the existing sight distance issues and accommodate a four lane section. The existing partial Kiowa-Bennett Road and I-70 interchange would remain in-place and Kiowa-Bennett Road would be realigned south of I-70 to the SH 79 and I-70 interchange.

This alternative was considered because it may provide improved access between I-70 and Kiowa-Bennett Road with the realignment of Kiowa-Bennett Road to the SH 79 and I-70 interchange.

### Alternative 4—East Railroad Crossing with East Kiowa-Bennett Road Interchange Alignment



This alternative includes the same SH 79 realignment south of downtown Bennett as Alternative 1, providing similar connectivity and safety benefits with the railroad grade separation. The SH 79 and I-70 interchange would be reconstructed to improve the existing sight distance issues and accommodate a four lane section. The existing partial Kiowa-Bennett Road and I-70 interchange ramps would be removed and Kiowa-Bennett Road would be realigned south of I-70 one mile east with a full interchange configuration.

This alternative was considered because it would provide improved access between I-70 and Kiowa-Bennett Road and adheres to the two-mile FHWA rural interchange spacing guidelines by locating the full Kiowa-Bennett Road interchange one mile east of the current location.

### Alternative 5—East Railroad Crossing with Central Kiowa-Bennett Road Alignment



This alternative consists of the same SH 79 realignment south of downtown Bennett as Alternative 1, providing similar connectivity and safety benefits with the railroad grade separation, and the same split diamond configuration as Alternative 2. The SH 79 and I-70 interchange and Kiowa-Bennett Road and I-70 interchange would be reconstructed with the new ramp connections. Kiowa-Bennett Road would be realigned across Kiowa Creek north of I-70.

This alternative was considered because it may provide improved connectivity for the Bennett mixed use commercial development area with the Kiowa-Bennett Road realignment. The split diamond configuration would provide ramp connections between the SH 79 and Kiowa-Bennett Road interchanges and also provides increased distance between ramp merge and diverge points on I-70, which would meet the requirements for FHWA rural interchange spacing guidelines.

### Alternative 6—East SH 79 Alignment with Kiowa-Bennett Railroad Crossing



The alternative consists of the reconstruction of the Kiowa-Bennett Road and I-70 interchange to provide full ramp movements on and off the freeway and would become the new SH 79 alignment. The SH 79 railroad grade separation would occur near Kiowa Creek east of downtown Bennett. The Converse Road and I-70 interchange (at the existing SH 79 interchange) would remain in-place, but without the state highway designation.

This alternative was considered because it would provide improved access between I-70 and Kiowa-Bennett Road with a full interchange configuration at Kiowa-Bennett Road and may reduce travel time along SH 79 and Kiowa-Bennett Road through the study area with a direct north-south connection from I-70 at Kiowa-Bennett Road, while reducing railroad conflict and delay at the at-grade crossing.

### Alternative 7—West Railroad Crossing with West Kiowa-Bennett Road Alignment



This alternative consists of realigning SH 79 west of downtown Bennett with the SH 79 grade separation at a new UPRR crossing west of Bennett, returning to its existing alignment north of town. The SH 79 and I-70 interchange would be reconstructed to improve the existing sight distance issues and accommodate a four lane section. The existing partial Kiowa-Bennett Road and I-70 interchange would remain in-place and Kiowa-Bennett Road would be realigned south of I-70 to the SH 79 and I-70 interchange.

This alternative was considered because it may provide improved access between I-70 and Kiowa-Bennett Road and reduce travel time along SH 79 and Kiowa-Bennett Road through the study area, while reducing railroad conflict and delay at the at-grade crossing.

### Alternative 8—West Railroad Crossing with Full Kiowa-Bennett Road Diamond Interchange



This alternative combines the SH 79 realignment of Alternative 7 with the Kiowa-Bennett Road interchange connection of Alternative 1. The SH 79 and I-70 interchange would be reconstructed to improve the existing sight distance issues and accommodate a four lane section. The Kiowa-Bennett Road and I-70 interchange would be reconstructed to provide full ramp movements for both directions on and off the freeway.

This alternative was considered because it would provide improved access between I-70 and Kiowa-Bennett Road and may reduce travel time along SH 79 and Kiowa-Bennett Road through the study area, while reducing railroad conflict and delay at the at-grade crossing.

### Alternative 9—Central Railroad Crossing with West Kiowa-Bennett Road Alignment



This alternative consists of the same realignment of Kiowa-Bennett Road to the SH 79 interchange as Alternative 3, providing similar connectivity benefits. The existing partial Kiowa-Bennett Road interchange would remain in-place. The SH 79 and I-70 interchange would be reconstructed to improve the existing sight distance issues and accommodate a four lane section. SH 79 would be realigned directly north through Bennett rather than follow the US 36 alignment in town. SH 79 would be grade-separated at the UPRR crossing and be realigned along 1st Avenue, returning to its existing alignment north of town.

This alternative was considered because it may provide improved access between I-70 and Kiowa-Bennett Road and reduce travel time along SH 79 and Kiowa-Bennett Road through the study area with a direct north-south connection from I-70 at SH 79, while reducing railroad conflict and delay at the at-grade crossing.

### Alternative 10—Central Railroad Crossing with Full Kiowa-Bennett Road Diamond Interchange



This alternative combines the SH 79 realignment of Alternative 9 with the Kiowa-Bennett Road interchange connection of Alternative 1. The SH 79 and I-70 interchange would be reconstructed to improve the existing sight distance issues and accommodate a four lane section. The Kiowa-Bennett Road and I-70 interchange would be reconstructed to provide full ramp movements for both directions on and off the freeway.

This alternative was considered because it would provide improved access between I-70 and Kiowa-Bennett Road and may reduce travel time along SH 79 and Kiowa-Bennett Road through the study area, while reducing railroad conflict and delay at the at-grade crossing.

## Level 1 Screening Evaluation

The alternatives developed were evaluated against the Level 1 screening criteria to identify fatal flaws related to the project Purpose and Need. Alternatives that received a fatal flaw rating on any of the criteria elements (that is, one or more “No” responses) were eliminated from further consideration.

The Level 1 Screening and Analysis Matrix is shown in **Table 1**. The reasons for elimination related to the Purpose and Need are shown in the summary of results.

## Level 1 Screening Results

Three alternatives were eliminated from further consideration because they do not meet the Purpose and Need, which is to improve regional mobility and connectivity, reduce conflict and delay at the at-grade railroad crossing, and address safety concerns. The eliminated alternatives were:

- Alternative 7—West Railroad Crossing with West Kiowa-Bennett Road Alignment
- Alternative 8—West Railroad Crossing with Full Kiowa-Bennett Road Diamond Interchange
- Alternative 10—Central Railroad Crossing with Full Kiowa-Bennett Road Diamond Interchange

Eight alternatives were carried forward for consideration in Level 2 screening (including the No Action alternative). Those alternatives were:

- No Action
- Alternative 1—East Railroad Crossing with Full Kiowa-Bennett Road Diamond Interchange
- Alternative 2—East Railroad Crossing with Split Kiowa-Bennett Road Diamond Interchange
- Alternative 3—East Railroad Crossing with West Kiowa-Bennett Road Interchange Alignment
- Alternative 4—East Railroad Crossing with East Kiowa-Bennett Road Interchange Alignment
- Alternative 5—East Railroad Crossing with Central Kiowa-Bennett Road Alignment
- Alternative 6—East SH 79 Alignment with Kiowa-Bennett Railroad Crossing
- Alternative 9—Central Railroad Crossing with West Kiowa-Bennett Road Alignment

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Table 1: Level 1 Matrix

CATEGORY	LEVEL 1 SCREENING CRITERIA	NA	1	2	3	4	5	6	7	8	9	10
		NO ACTION	EAST UPRR CROSSING WITH FULL K-B DIAMOND	EAST UPRR CROSSING WITH SPLIT K-B DIAMOND	EAST UPRR CROSSING WITH WEST K-B ALIGNMENT	EAST UPRR CROSSING WITH EAST K-B ALIGNMENT	EAST UPRR CROSSING WITH CENTRAL K-B ALIGNMENT	EAST SH 79 ALIGNMENT WITH K-B UPRR CROSSING	WEST UPRR CROSSING WITH WEST K-B ALIGNMENT	WEST UPRR CROSSING WITH FULL K-B DIAMOND	CENTRAL UPRR CROSSING WITH WEST K-B ALIGNMENT	CENTRAL UPRR CROSSING WITH FULL K-B DIAMOND
Regional Mobility and Connectivity	Does the alternative improve access between I-70 and Kiowa-Bennett Rd?	NO limited access between I-70 and K-B remains	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
	Does the alternative reduce travel time along SH 79 between I-70 and 38th Ave?	NO	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES
	Does the alternative reduce travel time between Kiowa-Bennett Rd south of I-70 and SH 79 north of Bennett?	NO	YES	YES	YES	YES	YES	YES	NO	NO	YES	NO
	Does the alternative accommodate trucks along the SH 79 and Kiowa-Bennett corridors in a safe and reliable manner?	NO issues with trucks downtown remain	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Railroad Conflict and Delay	Will the alternative reduce the number of vehicles crossing at the existing at-grade railroad crossing on SH 79/Adams St?	NO	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES
Safety Concerns	Will the alternative improve the reliability of emergency response time?	NO	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES
	Will the alternative improve travel safety for students of Bennett Schools?	NO	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES
SUMMARY OF RESULTS		Carried Forward: Baseline Comparison	Carried Forward	Carried Forward	Carried Forward	Carried Forward	Carried Forward	Carried Forward	Eliminated: Does not address connectivity with increased travel time on SH 79 and K-B and does not address safety concerns with emergency response or student safety due to UPRR conflict	Eliminated: Does not address connectivity with increased travel time on SH 79 and K-B and does not address safety concerns with emergency response or student safety due to UPRR conflict	Carried Forward	Eliminated: Does not address regional connectivity with increased travel time from K-B to SH 79 north of Bennett
NOTES			Addresses issues with regional connectivity on SH 79 and K-B and diverts local traffic from existing SH 79 at-grade UPRR crossing; Design should consider turns required for trucks on K-B	Addresses issues with regional connectivity on SH 79 and K-B and diverts local traffic from existing SH 79 at-grade UPRR crossing; Design should consider turns required for trucks on K-B	Addresses issues with regional connectivity on SH 79 and K-B and diverts local traffic from existing SH 79 at-grade UPRR crossing	Addresses issues with regional connectivity on SH 79 and K-B and diverts local traffic from existing SH 79 at-grade UPRR crossing; Design should consider turns required for trucks on K-B	Addresses issues with regional connectivity on SH 79 and K-B and diverts local traffic from existing SH 79 at-grade UPRR crossing; Design should consider turns required for trucks on K-B	Addresses issues with regional connectivity on SH 79 and K-B and diverts local traffic from existing SH 79 at-grade UPRR crossing	Location of UPRR grade separation too far from schools and fire station and lack of street connections fail to divert local traffic from existing SH 79 at-grade UPRR crossing	Location of UPRR grade separation too far from schools and fire station and lack of street connections fail to divert local traffic from existing SH 79 at-grade UPRR crossing	Addresses issues with regional connectivity on SH 79 and K-B and diverts local traffic from existing SH 79 at-grade UPRR crossing	Location of UPRR grade crossing does not allow at-grade intersection with Colfax, so travel between K-B to SH 79 travels across the existing SH 79 at-grade UPRR crossing

NOTE: "K-B" = Kiowa-Bennett Road

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## Level 2 Alternatives Screening

Alternatives from the Level 1 screening that were recommended for further evaluation were refined to add more definition of the potential improvements, to better understand the operations and costs of the alternatives, and to provide information for further assessment in the Level 2 evaluation. The purpose of the Level 2 evaluation was to complete additional and more detailed analyses to confirm each alternative meets the Purpose and Need, compare how well each alternative would perform, and identify what impacts each alternative would have based on the project goals and objectives.

### Alternative Conceptual Layout

In order to fairly compare the impacts of alternatives through the Level 2 screening process, key design elements were assumed as part of the conceptual layout for all alternatives. The right-of-way (ROW) assumptions for SH 79 and Kiowa-Bennett Road were based on appropriate County and Town standards for the assumed roadway classification. SH 79 within the Town of Bennett was assumed to have a 118-foot cross section to be consistent with the Town of Bennett's *Downtown Planning Study*, and a 114-foot ROW envelope was assumed for Kiowa-Bennett Road to meet Arapahoe County standards for a rural arterial.

The assumed SH 79 cross section allows for a four-lane roadway with a divided median, five-foot shoulders that accommodate bike traffic, and detached eight-foot multi-use paths. Kiowa-Bennett Road was assumed to be a two-lane rural arterial, which allows for two 14-foot lanes and a paved six-foot shoulder that accommodates bike traffic. A County standard four-lane rural arterial can be accommodated within the same ROW if future volumes require widening.

All alternative layouts assumed that SH 79 would be a four-lane section from I-70 until north of Old Victory Road. North of Old Victory Road, SH 79 would narrow to match the existing two-lane highway. The opportunity to reduce the ROW width to mitigate specific property impacts may be considered during future NEPA processes.

### Level 2 Performance Measures

Performance measures were developed for each evaluation criterion to compare how well each alternative meets the project Purpose and Need and goals. These performance measures were either qualitative or quantitative, based on the criteria and the availability of data at this stage of development.

The color ratings shown with the performance measures are related to the colors provided in the Level 2 Screening Matrix in **Appendix C**. The ratings were used as a visual indication of the comparative characteristics of a criterion between alternatives, but not used as an indication of a decision (i.e., an alternative with many "red" ratings was not automatically rendered unreasonable). The colors are a general indication of whether the alternative favorably achieved the established criteria (green), had neutral impacts to the criteria (black), or poorly achieved the criteria/had negative impacts (red). The quantitative and qualitative ratings were based on industry standards or on a relative scale developed in coordination with the project TAC.

The alternatives were compared to determine how well each alternative met the evaluation criteria and performance measures described in this section.

### *Regional Mobility and Connectivity*

Performance measures for this criterion considered improvements in travel time and regional access along SH 79 and Kiowa-Bennett Road.

#### SH 79 Travel Time

- The information was analyzed by calculating the total time (in minutes) to travel from the SH 79 and I-70 westbound ramps to SH 79 north of 48th Avenue (north of Bennett). All intersections were assumed to be stop-controlled and SH 79 was assumed to be the major movement at intersections.
- Travel time for each alternative was calculated based on the following speed limit assumptions:
  - SH 79 existing alignment: 40 miles per hour (mph) from I-70 off ramp to Colfax Ave/US 36
  - SH 79 realignment: 40 mph
  - Colfax Avenue/US 36: 40 mph (outside downtown area)
  - Existing streets in downtown area: 25 mph
  - SH 79 north of Old Victory Road: 55 mph
  - For Alternative 9, SH 79 realignment: 35 mph from Colfax Avenue/US 36 to 38<sup>th</sup> Avenue
- Delay due to intersections was added based on Synchro 8 computer analysis output (version Build 802, Revision 685).
- Rating:
  - Green = Travel time reduced by more than 30 percent compared to No Action (resulting in a travel time less than 4.6 minutes)
  - Black = Travel time reduced by 10 to 30 percent compared to No Action (resulting in a travel time of 4.6 to 5.9 minutes)
  - Red = Travel time reduced by less than 10 percent compared to No Action (resulting in a travel time greater than 5.9 minutes)

#### Kiowa-Bennett Road Travel Time

- The information was analyzed by calculating the total time (in minutes) to travel from Kiowa-Bennett Road north of the Antelope Hills community (south of I-70) to SH 79 north of 48th Avenue (north of Bennett). It was assumed drivers would take a route from Kiowa-Bennett Road to US 36, then travel on US 36 to the intersection of SH 79, then would travel on SH 79. All intersections were assumed to be stop-controlled and Kiowa-Bennett Road was assumed to be the major movement at intersections with the exception of the intersection with SH 79 and Colfax Avenue/US 36.
- Travel time for each alternative was calculated based on the following speed limit assumptions:
  - Kiowa-Bennett Road: 55 mph from 6th Avenue to 1,500 feet south of I-70; 45 mph from 1,500 feet south of I-70 to Colfax Ave/US 36
  - Kiowa-Bennett Road realignment: 55 mph south of I-70 and 40 mph north of I-70
  - SH 79 existing alignment: 40 mph from I-70 off ramp to Colfax Ave/US 36
  - SH 79 realignment: 40 mph
  - Colfax Ave/US 36: 45 mph
  - Existing streets in downtown area (Colfax Ave, Adams St, Palmer Ave): 25 mph
- Delay due to intersections was added based on Synchro 8 computer analysis output (version Build 802, Revision 685).

- Rating:
  - Green = Travel time reduced by more than 30 percent compared to No Action (resulting in a travel time less than 6.3 minutes)
  - Black = Travel time reduced by 10 to 30 percent compared to No Action (resulting in a travel time of 6.3 to 8.0 minutes)
  - Red = Travel time reduced by less than 10 percent compared to No Action (resulting in a travel time greater than 8.0 minutes)

#### Kiowa-Bennett Road Connection to I-70

- Performance measure considered the ability for motorists to access eastbound and westbound I-70 from Kiowa-Bennett Road south of I-70.
- The connection was measured by the travel distance from the Antelope Drive and Kiowa-Bennett Road intersection to the western study area limit (at a point on I-70 immediately west of Penrith Road/CR 129) and to the eastern study area limit (on I-70 immediately east of Yulle Road).
- Rating for eastbound I-70 access:
  - Green = Travel distance reduced by more than 30 percent compared to No Action (resulting in a travel distance less than 5.5 miles)
  - Black = Travel distance reduced by 10 to 30 percent compared to No Action (resulting in a travel distance of 5.5 to 7.5 miles)
  - Red = Travel distance reduced by less than 10 percent compared to No Action (resulting in a travel distance greater than 7.5 miles)
- Rating for westbound I-70 access:
  - Green = Travel distance reduced by more than 30 percent compared to No Action (resulting in a travel distance less than 5.0 miles)
  - Black = Travel time reduced by 10 to 30 percent compared to No Action (resulting in a travel distance of 5.0 to 6.0 miles)
  - Red = Travel time reduced by less than 10 percent compared to No Action (resulting in a travel distance greater than 6.0 miles)

#### SH 79 Heavy Vehicle Movements

- Each alternative was evaluated to determine the number and characteristics of turns that heavy vehicles must traverse along SH 79 from the I-70 westbound ramps to SH 79 north of 38th Avenue (north of Bennett).
- The intersections that heavy vehicles must traverse were evaluated and the number of required full stops and turns were counted along SH 79 for each direction and each alternative.
- Rating:
  - Green = No stops or turns
  - Black = 1 or 2 stops and turns required
  - Red = 3 or more stops and turns required

#### Kiowa-Bennett Heavy Vehicle Movements

- Each alternative was evaluated to determine the number and characteristics of turns that heavy vehicles must traverse along Kiowa-Bennett Road from 6th Avenue (south of I-70) to SH 79 north of 38th Avenue (north of Bennett).

- The intersections that heavy vehicles must traverse were evaluated and the number of required full stops and turns were counted along Kiowa-Bennett Road for each direction and each alternative.
- Rating:
  - Green = No stops or turns
  - Black = 1 or 2 stops and turns required
  - Red = 3 or more stops and turns required

### *Conflict and Delay at the At-Grade Railroad Crossing*

Performance measures for this criterion considered delay and conflicts at the existing SH 79 at-grade railroad crossing.

#### At-Grade Crossing Delay

- The 2035 daily vehicle-hours of delay at the at-grade crossing were calculated for each alternative.
  - Eighteen trains are assumed to travel through town across the at-grade crossing daily. (Although steady growth in the rail industry is expected, the level of growth was not provided by UPRR, so the existing number of trains was used for this comparative calculation.) The crossing gates are assumed to be lowered a total of 25 seconds per train as the train approaches and 25 seconds after the train clears the intersection. The average train speed is 49 miles per hour, and the average train carries 100 55-foot long cars.
- Daily vehicular traffic volume at the crossing was estimated based on 2035 travel demand modeling and origin-destination study results.
- Based on an average closure time of 2.1 minutes per crossing and a No Action daily volume of traffic of 6,200 vehicles per day, there would be an average of 164 vehicles impacted by the closure per day for the No Action scenario.
- Rating:
  - Green = Delay at the at-grade crossing reduced by more than 60 percent compared to No Action (fewer than 65 impacted vehicles per day)
  - Black = Delay at the at-grade crossing reduced by 30 to 60 percent compared to No Action
  - Red = Delay at the at-grade crossing reduced by less than 30 percent compared to No Action (more than 115 impacted vehicles per day)

#### At-Grade Crossing School Bus Movements

- A qualitative assessment of the effect on school bus routes carrying school children across the railroad at-grade was described for each alternative, based on possible route options.
- Factors considered for this performance measure include the amount of out-of-direction travel required for a bus to access the grade separation, accessibility to the local street network, and likely bus routes based on regional connecting roadways.
- Rating:
  - Green = All buses expected to use the grade separation rather than the at-grade crossing
  - Black = Some buses may use the grade separation rather than the at-grade crossing
  - Red = The grade separation would not be easily accessible for buses and would likely result in no diversion of school buses compared to the No-Action alternative

### Emergency Response Time

- Based on discussions with Bennett Fire Protection District staff, the following key safety concerns were identified as critical to area emergency response time:
  - A direct connection from Kiowa-Bennett Road to I-70 for all directions of travel is considered the most critical need based on transporting individuals from the Bennett area north and south of I-70 to hospitals located in Aurora.
  - A direct route from the fire station to Kiowa-Bennett Road south of I-70 is important due to the large population serviced in that area.
  - Removing trucks and reducing traffic in the downtown Bennett area would make it easier for emergency vehicles to exit their station to respond to calls.
- Each alternative was evaluated for how well it addresses the critical concerns identified by the emergency response staff.
- Rating:
  - Green = All three concerns were addressed
  - Black = 1 or 2 of the concerns were addressed
  - Red = None of the concerns were addressed

### Safety Concerns

Performance measures for this criterion considered safety concerns expressed by area stakeholders and the general public.

### Heavy Vehicle and Pedestrian Conflict

- Each alternative was evaluated for the potential conflict between heavy vehicles and pedestrians in downtown Bennett.
- The potential for conflict was represented by a qualitative assessment of the amount of trucks expected to travel along Palmer Avenue south of the schools, which is where most mid-block pedestrian crossings have been observed.
- Rating:
  - Green = Only local trucks will use Palmer Avenue
  - Black = Primarily local trucks will use Palmer Avenue with some potential for cut-through truck trips between Colfax Avenue/US 36 and SH 79
  - Red = Truck trips will need to use Palmer Avenue to obtain access between Colfax Avenue/US 36 and SH 79

### Hazardous Materials Route

- SH 79 is an identified hazardous materials route from I-70 to north of Bennett.
- The number of homes and/or places where people work or congregate located within 300 feet of the hazardous materials route was identified for each alternative. The length of hazardous materials route was considered along SH 79 from the I-70 westbound ramps to north of 38th Avenue (north of Bennett).
- The No Action condition identifies 80 buildings located within 300 feet of the hazardous materials route.
- Rating:
  - Green = Reduction of more than 75 percent (resulting in 20 or fewer) in number of homes/places exposed to hazardous materials route over No Action conditions

- Black = Reduction of 25 to 75 percent in number of homes/places exposed to hazardous materials route over No Action conditions
- Red = Reduction of less than 25 percent (resulting in 60 or more) in number of homes/places exposed to hazardous materials route over No Action conditions

#### Roadway Geometric Improvements

- Improvements to the following existing roadway deficiencies were identified if they were within the project limits of each alternative:
  - Shoulder width along Kiowa-Bennett Road from 6th Avenue to I-70
  - Intersection sight distance at the SH 79 and Old Victory Road intersection
  - Intersection sight distance at the existing I-70 eastbound and westbound off ramp intersections at SH 79
  - Vertical sight distance along Kiowa-Bennett Road north of 6th Avenue
- Improvements were assumed to be made if the identified deficiencies were within the construction limits of the alternative. Improvements outside the construction limits may be completed, but were not considered part of this project. Construction limits are based on the extents of the conceptual roadway design developed for each alternative.
- Rating:
  - Green = Improves all 4 identified issues
  - Black = Improves 2 or 3 identified issues
  - Red = Improves 1 or less identified issues

#### Potential Design Variances

- Potential variances in federal or state design standards were noted for each alternative. For example, the FHWA standard two-mile interchange spacing for rural freeways was considered.
- Rating:
  - Green = No design variances anticipated
  - Black = One potential design variance anticipated
  - Red = More than one potential design variance anticipated

#### Environmental Impacts

Performance measures for this criterion considered the magnitude of environmental impacts to the main areas of concern identified in the study Environmental Overview section of the *Final Corridor Assessment Conditions Report*.

#### Potentially Impacted Parks and Recreation Areas

- The number of sites and acres impacted at parks and recreation locations within the study area (Bennett community parks and the Kiowa Creek North Open Space) were evaluated based on the existing parks and recreation areas identified in the *Final Corridor Conditions Assessment Report*.
- The area of impact expected from a park or recreation area was quantified in acres.
- Rating:
  - Green = No impact expected
  - Black = 1 site and 0.1 to 1 acre potentially impacted
  - Red = More than 1 site or more than 1 acre potentially impacted



### Potentially Impacted Threatened and Endangered Species Areas

- Areas of threatened and endangered species potentially impacted by the alternatives were quantified based on the number of acres within the threatened and endangered species areas identified in the *Final Corridor Assessment Conditions Report*.
- Rating:
  - Green = Fewer than 5 acres potentially impacted
  - Black = 5 to 10 acres potentially impacted
  - Red = More than 10 acres potentially impacted

### Potentially Impacted Sensitive Biological Habitat

- Potential impacts to sensitive biological habitat along Kiowa Creek were quantified based on the limits of the Kiowa Creek floodplain shown in the *Final Corridor Conditions Assessment Report*.
- If a crossing of Kiowa Creek is included in an alternative, the length of the alternative roadways across the identified floodplain limits determined the potential level of impact.
- Rating:
  - Green = Kiowa Creek floodplain impacts < 2,000 feet
  - Black = Kiowa Creek floodplain impacts 2,000 to 5,000 feet
  - Red = Kiowa Creek floodplain impacts > 5,000 feet

### Potentially Impacted Noise Receptors

- Noise receptors that may be impacted due to each alternative were quantified based on the number of potential noise receptors within 500 feet of an existing roadway and 1,000 feet of a new roadway alignment where construction is proposed to occur.
- Potential noise receptors included in the impact analysis include receptors that likely require mitigation, such as churches and residential homes. Commercial businesses were not included in the total number of potentially impacted receptors.
- Rating:
  - Green = No noise receptors located within 500 feet of existing and 1,000 feet of new proposed roadways
  - Black = 1 to 30 noise receptors located within 500 feet of existing and 1,000 feet of new proposed roadways
  - Red = More than 30 noise receptors located within 500 feet of existing and 1,000 feet of new proposed roadways

### Community Impacts

Performance measures for this criterion considered the magnitude of anticipated impacts to the existing and planned local community.

### ROW Required (acres)

- The acres of property impacts were calculated for each alternative based on the conceptual roadway design layout and the anticipated ROW requirements.
- The property acreage impacts include corner portions of properties that may be considered an unusable remnant.

- Rating:
  - Green = Less than 50 acres
  - Black = Between 50 and 80 acres
  - Red = More than 80 acres

#### ROW Required (properties)

- The number of properties impacted was calculated for each alternative based on the conceptual roadway design layout and the anticipated ROW requirements. The number of impacted properties was summarized as partial and full acquisitions.
- The number of impacted properties was categorized as commercial, residential, or public. Commercial properties include commercial and mining land uses. Residential properties include residential and agricultural land uses. Public properties include churches, parks, and Town/County land uses.
- Rating:
  - Green = Less than 25 properties impacted
  - Black = Between 25 and 50 properties impacted
  - Red = More than 50 properties impacted

#### Consistency with Established Local Plans and Visions

- The consistency with the following established local plans and visions was determined for each alternative:
  - *Bennett Downtown Planning Study* – recommends SH 79 realignment out of the existing downtown area and a railroad grade separation
  - *Town of Bennett Comprehensive Plan* – recommends SH 79 realignment out of the existing downtown area and a railroad grade separation
  - *Adams County Transportation Plan* – recommends a railroad grade separation for SH 79
  - *Arapahoe County Transportation Plan* – recommends a more direct connection between Kiowa-Bennett Road and SH 79 and improved access for Kiowa-Bennett Road to I-70
  - *CDOT 2035 Statewide Transportation Plan* – recommends a railroad grade separation for SH 79
- New trails adjacent to SH 79 and Kiowa-Bennett Road are recommended in the Bennett planning documents.
- Rating:
  - Green = Alternative consistent with established local plans
  - Red = Alternative not consistent with one or more established local plans

#### Economic Opportunities

Performance measures for this criterion considered local access and mobility for projected future area economic growth within the study area.

#### Access for Economic Development

- The length of new SH 79 frontage for development to occur in Bennett’s planned commercial areas was quantified. Based on the *Bennett Downtown Planning Study*, the proposed commercial areas are located:
  - At all quadrants of the existing I-70 and SH 79 interchange

- Along existing SH 79 north of Palmer Avenue
- South of Colfax Ave/US 36 in the currently undeveloped area between existing SH 79 and Kiowa Creek and north of I-70
- Rating:
  - Green = Adds at least one mile of commercial property frontage
  - Black = Adds less than one mile of commercial property frontage
  - Red = No new commercial property frontage added

### ***Multimodal Connections***

Performance measures for this criterion considered the relative level of accommodation for multimodal connections along SH 79 and Kiowa-Bennett Road through the study area.

### ***Multimodal Access***

- The provision for a new connection consistent with future trail and sidewalk planning identified in the *Bennett Regional Trail Plan* and by Arapahoe County Open Spaces staff was identified for each alternative.
- Future planned roadways that may connect east-west trails within the study area were noted to provide additional connectivity where sidewalks or wide roadway shoulders are planned.
- Rating:
  - Green = Alternative consistent with established multimodal planning
  - Red = Alternative not consistent with established multimodal planning

### ***Constructability***

Performance measures for this criterion addressed the practicability for implementation.

### ***Conceptual Level Probable Construction Costs***

- Construction costs were provided on a relative scale of low, moderate, and high with a general evaluation based on the amount of new or reconstructed roadway, size of required structures, major cut/fill variances, and overall footprint of alternative conceptual layout.
- Rating:
  - Green = Relative low costs
  - Black = Relative moderate costs
  - Red = Relative high costs

### ***Constructability Issues***

- General construction complexity was determined based on the number and length of major structures, utility impacts, traffic impacts, and complexity from a contractor perspective (e.g., staging area, construction phasing, and length of construction).
- Rating:
  - Green = Typical construction with low complexity
  - Black = Some anticipated construction complexity
  - Red = Multiple impacts and major anticipated construction complexity

### Railroad Process and Requirements

- The coordination and potential issues with the railroad approval for construction and implementation of each alternative was identified, considering elements such as design standards and construction phasing requirements. Ability to meet railroad requirements was measured on a relative scale.
- Rating:
  - Green = Minimal concerns in ability to adhere to railroad requirements
  - Black = Some concerns in ability to meet railroad requirements
  - Red = Major concerns in ability to meet railroad requirements

### Phasing Opportunities

- The ability to construct useful portions of the improvements over a phased implementation period was identified. Ability to construct in usable pieces with reasonable funding was measured on a relative scale.
- Rating:
  - Green = Opportunities for phased implementation
  - Black = Opportunities for phased implementation, but with specific sequence required
  - Red = Phased implementation difficult

## **Level 2 Screening Evaluation**

The purpose of the Level 2 evaluation was to complete additional and more detailed analysis to confirm each alternative meets the Purpose and Need, compare how well each alternative would perform, and identify what impacts each alternative would have based on the project goals and objectives. The detailed Level 2 Screening Matrix providing the results of the analysis of the alternatives is included in **Appendix C**.

The following pages describe each alternative, the results of the evaluation criteria, and a conclusion for whether or not to carry forward the alternative into the Level 3 evaluation. An alternative was not carried forward if the more detailed evaluation showed the alternative does not meet the Purpose and Need or the alternative is unreasonable due to impacts and infeasibility.

## **Level 2 Screening Results**

In the Level 2 screening, the following four alternatives were eliminated from further consideration:

- Alternative 3 – East Railroad Crossing with West Kiowa-Bennett Road Interchange Alignment
- Alternative 5 – East Railroad Crossing with Central Kiowa-Bennett Road Alignment
- Alternative 6 – East SH 79 Alignment with Kiowa-Bennett Railroad Crossing
- Alternative 9 – Central Railroad Crossing with West Kiowa-Bennett Road Alignment

The following four alternatives were carried forward for further consideration in a Level 3 evaluation:

- No Action
- Alternative 1—East Railroad Crossing with Full Kiowa-Bennett Road Diamond Interchange
- Alternative 2—East Railroad Crossing with Split Kiowa-Bennett Road Diamond Interchange
- Alternative 4—East Railroad Crossing with East Kiowa-Bennett Road Interchange Alignment

## No Action

Under the No Action alternative, shown in **Figure 4**, the potential improvements would not take place. There are several operational and maintenance projects funded within the study area, including the resurfacing of Colfax Avenue/US 36 and restriping of SH 79 within the area north of the I-70 interchange. A new multi-use path along Kiowa-Creek Road from Antelope Hills to 6th Avenue is currently being constructed and planning is underway for the section north of 6th Avenue. Currently, there are no planned transportation capacity improvement projects within the study area.

### Regional Mobility and Connectivity

- Regional traffic must travel through downtown Bennett and across the railroad at-grade crossing
- No direct connection from Kiowa-Bennett Road to I-70
- Large trucks required to maneuver through town streets and make several tight turns

### At-Grade Railroad Crossing Conflict and Delay

- No reduction in the traffic delay at the existing at-grade crossing
- All buses must use at-grade crossing
- Does not address emergency responder primary concerns of a direct connection from Kiowa-Bennett Rd to I-70, a direct route from the fire station to Kiowa-Bennett south of I-70, and removing trucks and traffic congestion downtown

### Safety Concerns

- Hazardous materials route travels through downtown Bennett past nearly 80 buildings
- Sight distance at SH 79/Old Victory Road and at SH 79/I-70 ramps and Kiowa-Bennett Road shoulders are not improved
- Interchange spacing meets FHWA guidelines for rural interstates

### Environmental and Community Impacts

- Not consistent with local planning efforts for zoning or land use
- No environmental impacts
- No ROW impacts

### Economic Opportunities

- No new commercial SH 79 frontage within Town limits consistent with future zoning

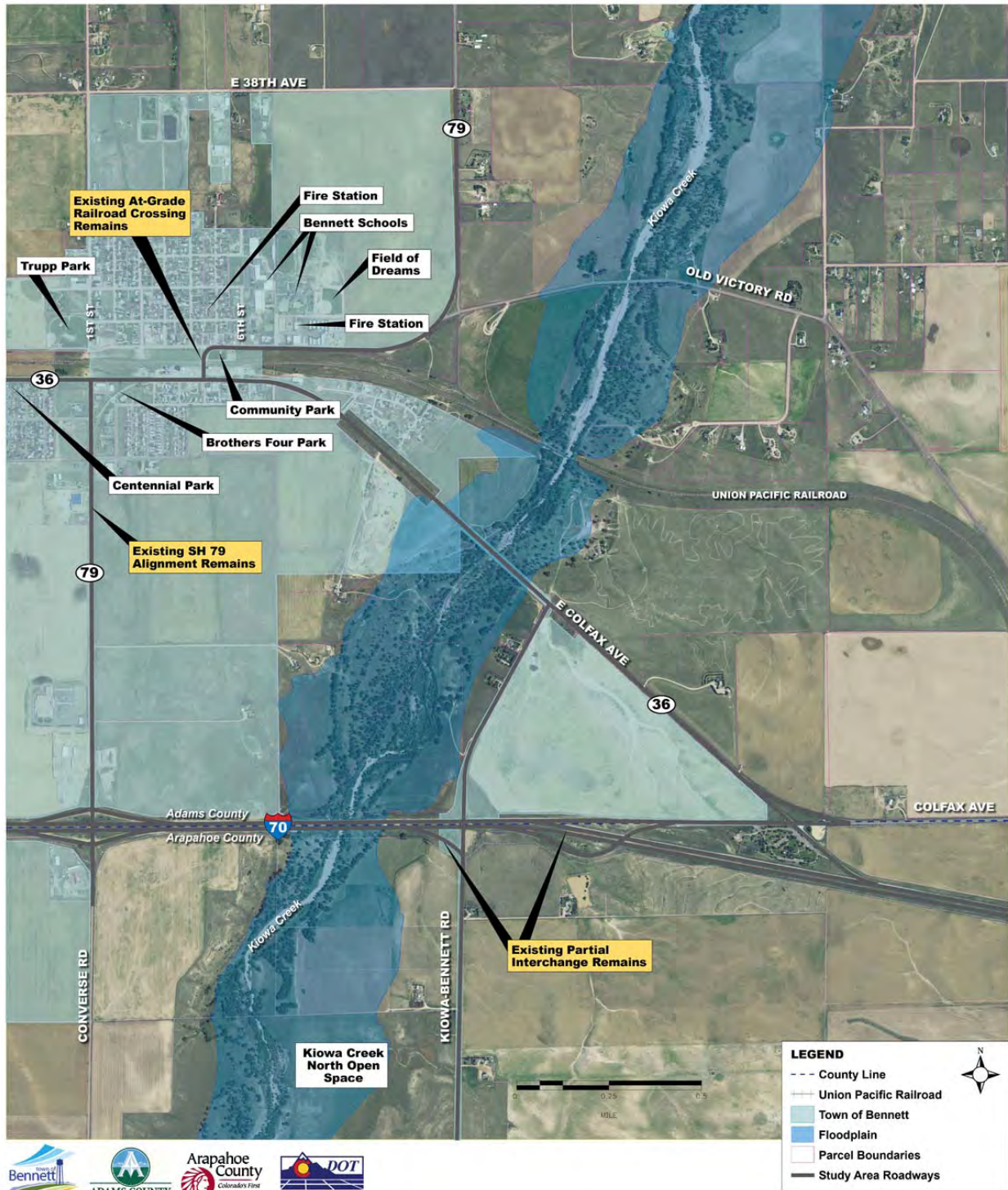
### Multimodal Connections

- Not consistent with future trail network connections

### Constructability

- No construction costs

Figure 4: No Action Alternative



## Evaluation

Under the No Action alternative, the study area transportation network will continue to have regional operational deficiencies, including a lack of connectivity to I-70. Due to lack of connectivity, both the SH 79 and Kiowa-Bennett Road corridors will not be able to effectively support mobility and economic activity in Bennett and Adams and Arapahoe Counties for existing and future land use and transportation demand conditions.

Without a railroad grade separation for SH 79, the heavy truck traffic and train operations will continue to contribute to the localized congestion, mobility issues, and safety concerns at the at-grade UPRR crossing in downtown Bennett. With the anticipated growth in future rail traffic, the truck and train conflicts will increase. The lack of a grade-separated route over/under the railroad tracks and the lack of a direct connection from Kiowa-Bennett Road to I-70 west will continue to hinder emergency response for area residents and travelers south of I-70.

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## Critical Considerations

The No Action alternative does not meet the Purpose and Need, but is included as a baseline against which to compare impacts of action alternatives. This is important context information in determining the relative magnitude and intensity of the impacts of action alternatives.

## Conclusion:

**CARRIED FORWARD**  
Use as a baseline for comparison

## Alternative 1 – East Railroad Crossing with Full Kiowa-Bennett Road Diamond Interchange

This alternative, shown in **Figure 5**, consists of realigning SH 79 south of downtown Bennett with a grade-separated railroad crossing on SH 79 east of Bennett and a full diamond interchange at Kiowa-Bennett Road and I-70.

### Regional Mobility and Connectivity

- 23% reduction in travel time on SH 79 from I-70 to north of Bennett
- 23% reduction in travel time on Kiowa-Bennett Road from south of I-70 to north of Bennett
- Provides a direct connection from Kiowa-Bennett Road to I-70
- Two turns required for large trucks to travel from south of Bennett to north of town

### At-Grade Railroad Crossing Conflict and Delay

- Approximately 55% reduction in traffic delay at existing at-grade crossing
- Addresses emergency responder primary concerns of a direct connection from Kiowa-Bennett Rd to I-70, a direct route from the fire station to Kiowa-Bennett south of I-70, and removing trucks and traffic congestion downtown

### Safety Concerns

- Hazardous materials route outside downtown Bennett
- Reduction expected in truck and pedestrian conflicts near the school because trucks will move to SH 79 realignment
- Improves sight distance at SH 79/Old Victory Road and at SH 79/I-70 ramps
- Interchange spacing less than FHWA guidelines for rural interstates

### Environmental and Community Impacts

- No impacts to parks and recreational areas
- Approximately 7 acres of potentially impacted threatened and endangered species areas
- Approximately 1,800 feet of floodplain impacts
- Approximately 41 acres of ROW impacts

### Economic Opportunities

- Adds over one mile of commercial developable SH 79 frontage consistent with future zoning

### Multimodal Connections

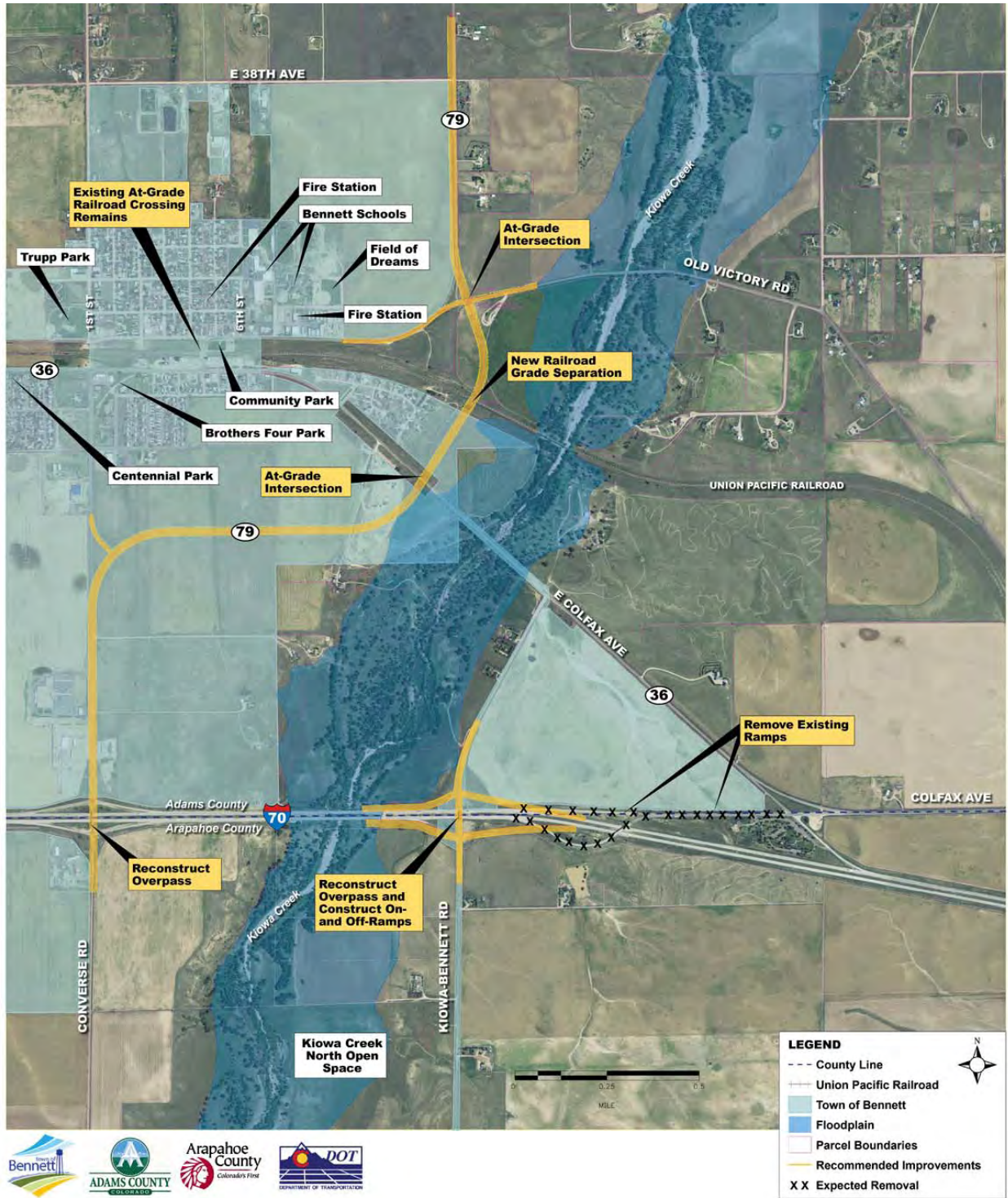
- Consistent with future trail network connections

### Constructability

- Relatively low construction costs
- Relatively low potential for construction issues anticipated
- Relatively easy for smaller usable sections to be constructed at separate times



**Figure 5: Alternative 1 - East Railroad Crossing with Full Kiowa-Bennett Road Diamond Interchange**



## Evaluation

This alternative provides a direct connection between Kiowa-Bennett Road and I-70 at the current Kiowa-Bennett Road crossing, which significantly reduces travel times for drivers traveling from Kiowa-Bennett Road south of I-70 towards the Denver metropolitan area. Drivers on Kiowa-Bennett Road wishing to access SH 79 north can access the highway without traveling through downtown Bennett by traveling to Colfax Avenue/US 36 and the railroad grade separation on SH 79.

Regional traffic and hazardous material trucks would be removed from the downtown Bennett area with the realignment of SH 79. This would result in a 55 percent reduction of daily traffic delay experienced at the existing at-grade crossing due to regional traffic being redirected to the grade separation on SH 79.

Safety improvements include improving sight distance at the I-70 and SH 79 ramps with a new bridge over I-70 as well as improving the intersection of SH 79 and Old Victory Road. The Kiowa-Bennett Road and I-70 interchange would be reconstructed to provide full ramp movements for both directions on and off the freeway. The new SH 79 alignment would add over one mile of state highway frontage for commercial developable property within Town limits consistent with future zoning of the area south of downtown Bennett as a new mixed use commercial area. This alternative accommodates future multimodal connections consistent with the planned future trail network in the area by providing the opportunity for connections east and west of Kiowa Creek and adjacent to the development area.

This alternative has no direct impacts to parks and recreational areas. It is estimated to impact 7 acres of threatened and endangered species area, less than half an acre of which is the prairie dog colony near the SH 79 interchange, and 7 acres at the Kiowa-Bennett Road ramps that impact Kiowa Creek. The alternative is estimated to directly impact 22 properties with one full and 21 partial acquisitions (total = 41 acres). Of these properties, 17 are residential, 3 are commercial, and 2 are public.

In comparison to other alternatives, the construction costs are relatively low because structures are required only at the interchanges and railroad, there is minimal construction traffic impact expected, and there is less ROW acquisition compared to other alternatives. There are good opportunities for phased construction of the area improvements with smaller usable sections that can be constructed at separate times while providing transportation network benefits with smaller funding sources.

This alternative includes one-mile spacing between interchanges, which is less than what is recommended by FHWA for rural interchanges and would therefore require a variance.

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## Critical Considerations

There are regional mobility and connectivity improvements with the reductions in travel time provided with the more efficient connections along SH 79 and Kiowa-Bennett Road to I-70 and through the study area. The removal of traffic and heavy trucks from the downtown Bennett area reduces the conflict and delay experienced at the existing at-grade railroad crossing. Safety is improved with the realignment of the heavy truck and hazardous materials route outside the densely-populated and tightly-constrained area adjacent to the school. Safety concerns are also addressed with improvements to existing geometric deficiencies at SH 79/Old Victory Road and the SH 79/I-70 ramps intersections. However, this alternative will require a variance from FHWA for one-mile spacing between interchanges in a rural area.

Because this alternative meets the Purpose and Need by improving regional mobility and connectivity, reducing conflict and delay at the at-grade railroad crossing, and addressing critical safety concerns while minimizing private property and environmental impacts, this alternative was carried forward for further consideration.

## Conclusion:

**CARRIED FORWARD**

## Alternative 2 – East Railroad Crossing with Split Kiowa-Bennett Road Diamond Interchange

This alternative, shown in **Figure 6**, consists of realigning SH 79 south of downtown Bennett with a grade-separated railroad crossing on SH 79 east of Bennett and a split diamond interchange between SH 79 and Kiowa-Bennett Road and I-70. This alternative was considered because it may provide similar connectivity and safety benefits as Alternative 1 and also provide increased distance between ramp merge and diverge points on I-70 with the split diamond interchange configuration, providing the ramp spacing to meet FHWA rural guidelines.

### Regional Mobility and Connectivity

- 23% reduction in travel time on SH 79 from I-70 to north of Bennett
- 23% reduction in travel time on Kiowa-Bennett Road from south of I-70 to north of Bennett
- Provides a direct connection from Kiowa-Bennett Road to I-70
- Two turns required for large trucks to travel from south of Bennett to north of town

### At-Grade Railroad Crossing Conflict and Delay

- Approximately 55% reduction in traffic delay at existing at-grade crossing
- Emergency responders concerned with additional stops on I-70 ramp connections

### Safety Concerns

- Hazardous materials route outside downtown Bennett
- Reduction expected in truck and pedestrian conflicts near the school because trucks will move to SH 79 realignment
- Improves sight distance at SH 79/Old Victory Road and at SH 79/I-70 ramps
- Interchange spacing meets FHWA guidelines for rural interstates

### Environmental and Community Impacts

- No impacts to parks and recreational areas
- Approximately 10 acres of potentially impacted threatened and endangered species areas
- Approximately 4,700 feet of floodplain impacts
- Approximately 57 acres of ROW impacts

### Economic Opportunities

- Adds over one mile of commercial developable SH 79 frontage consistent with future zoning

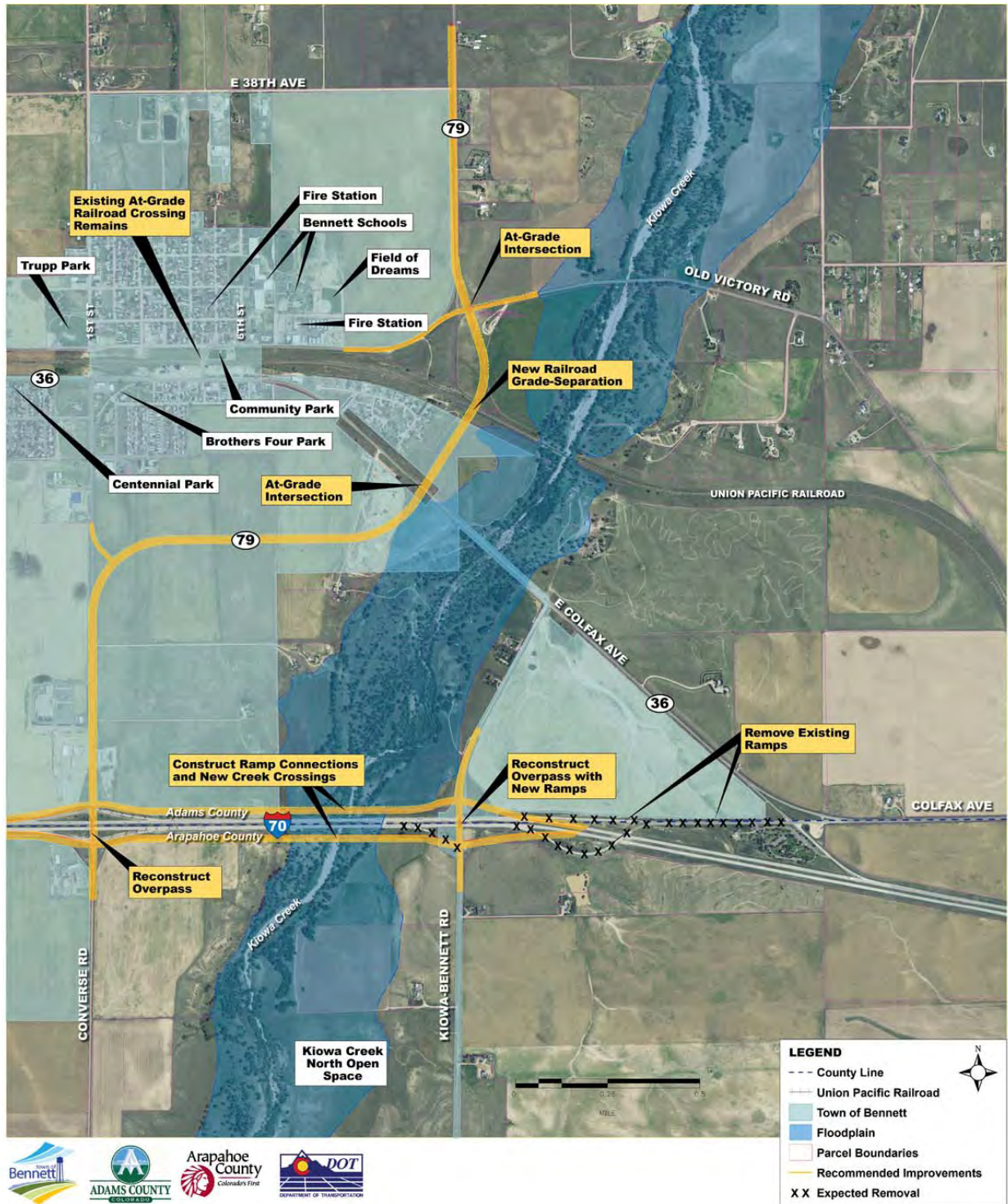
### Multimodal Connections

- Consistent with future trail network connections

### Constructability

- Relatively high construction costs
- Relatively moderate potential for construction issues anticipated
- Relatively moderate opportunities for phasing because of the larger cost to implement individual sections

**Figure 6: Alternative 2 - East Railroad Crossing with Split Kiowa-Bennett Road Diamond Interchange**



## Evaluation

This alternative provides a split diamond configuration between the I-70 interchanges with SH 79 and Kiowa-Bennett Road to meet the FHWA guidance of two-mile spacing for rural interchanges. This provides a connection between Kiowa-Bennett Road and I-70, but an added stop would be required at the SH 79 ramps, which results in a lower travel time benefit than other alternatives for drivers traveling from Kiowa-Bennett Road south of I-70 towards the Denver metropolitan area. Drivers on Kiowa-Bennett Road wishing to access SH 79 north can access the highway without traveling through downtown Bennett by traveling to Colfax Avenue/US 36 and the railroad grade separation on SH 79.

Regional traffic and hazardous material trucks would be removed from the downtown Bennett area with the realignment of SH 79. This would result in a 55 percent reduction of daily traffic delay experienced at the existing at-grade crossing due to regional traffic being redirected to the grade separation on SH 79.

Safety improvements include improving sight distance at the I-70 and SH 79 ramps with a new bridge over I-70 as well as improving the intersection of SH 79 and Old Victory Road. The Kiowa-Bennett Road and I-70 interchange would be reconstructed to provide full ramp movements for both directions on and off the freeway. The new SH 79 alignment would add over one mile of state highway frontage for commercial developable property within Town limits consistent with future zoning of the area south of downtown Bennett as a new mixed use commercial area. This alternative accommodates future multimodal connections consistent with the planned future trail network in the area by providing the opportunity for path connections east and west of Kiowa Creek and adjacent to the development area.

This alternative has no direct impacts to parks and recreational areas. It is estimated to impact 10 acres of threatened and endangered species area, 2 acres of which is the prairie dog colony near the SH 79 interchange, and 8 acres at the split diamond interchange ramps that impact the Kiowa Creek area. The alternative is estimated to directly impact 26 properties with one full and 25 partial acquisitions (total = 57 acres). Of these impacted properties, 19 are residential, 5 are commercial, and 2 are public.

In comparison to other alternatives, the construction costs are relatively high due to the additional structures required for the split diamond ramp connections across Kiowa Creek. There are opportunities for phased construction of the area improvements with smaller usable sections, but the SH 79 and Kiowa-Bennett Road interchange improvements would require a larger funding source because the split interchange configuration must be constructed as one project.

This alternative meets the two-mile interchange spacing guidelines for rural interstates and, therefore would not require a variance from FHWA.

## Critical Considerations

There are regional mobility and connectivity improvements with reductions in travel time provided with the more efficient connections along SH 79 and Kiowa-Bennett Road to I-70 and through the study area. The conflict and delay and safety improvements at the existing at-grade railroad crossing are similar to other alternatives with the same SH 79 realignment. Safety concerns are also addressed with improvements to existing geometric deficiencies at SH 79/Old Victory Road and the SH 79/I-70 ramps intersections. This alternative will not require a variance from FHWA for interchange spacing.

Because this interchange meets the Purpose and Need by improving regional mobility and connectivity, reducing conflict and delay at the at-grade railroad crossing, and addressing critical safety concerns while minimizing private property and environmental impacts, this alternative was carried forward for further consideration.

## Conclusion:

**CARRIED FORWARD**

## Alternative 3 – East Railroad Crossing with West Kiowa-Bennett Road Interchange Alignment

This alternative, shown in **Figure 7**, consists of realigning SH 79 south of downtown Bennett with a grade-separated railroad crossing on SH 79 east of Bennett and realigning Kiowa-Bennett Road to the west to meet the SH 79 interchange at I-70.

### Regional Mobility and Connectivity

- 23% reduction in travel time on SH 79 from I-70 to north of Bennett
- 4% reduction in travel time on Kiowa-Bennett Road from south of I-70 to north of Bennett
- Provides connection from Kiowa-Bennett Road to I-70 at existing SH 79 interchange
- No turns required for large trucks to travel from south of Bennett to north of town

### At-Grade Railroad Crossing Conflict and Delay

- Approximately 55% reduction in traffic delay at existing at-grade crossing
- Emergency responders concerned with out-of-direction travel from fire station to access Kiowa-Bennett Road

### Safety Concerns

- Hazardous materials route outside downtown Bennett
- Reduction expected in truck and pedestrian conflicts near the school because trucks will move to SH 79 realignment
- Improves sight distance at SH 79/Old Victory Road and at SH 79/I-70 ramps and Kiowa-Bennett Road shoulders are improved
- No change to interchange spacing over existing conditions

### Environmental and Community Impacts

- Approximately 19 acres of potentially impacted parks and recreational areas
- Approximately 3 acres of potentially impacted threatened and endangered species areas
- Approximately 3,300 feet of floodplain impacts
- Approximately 86 acres of ROW impacts

### Economic Opportunities

- Adds over one mile of commercial developable SH 79 frontage consistent with future zoning

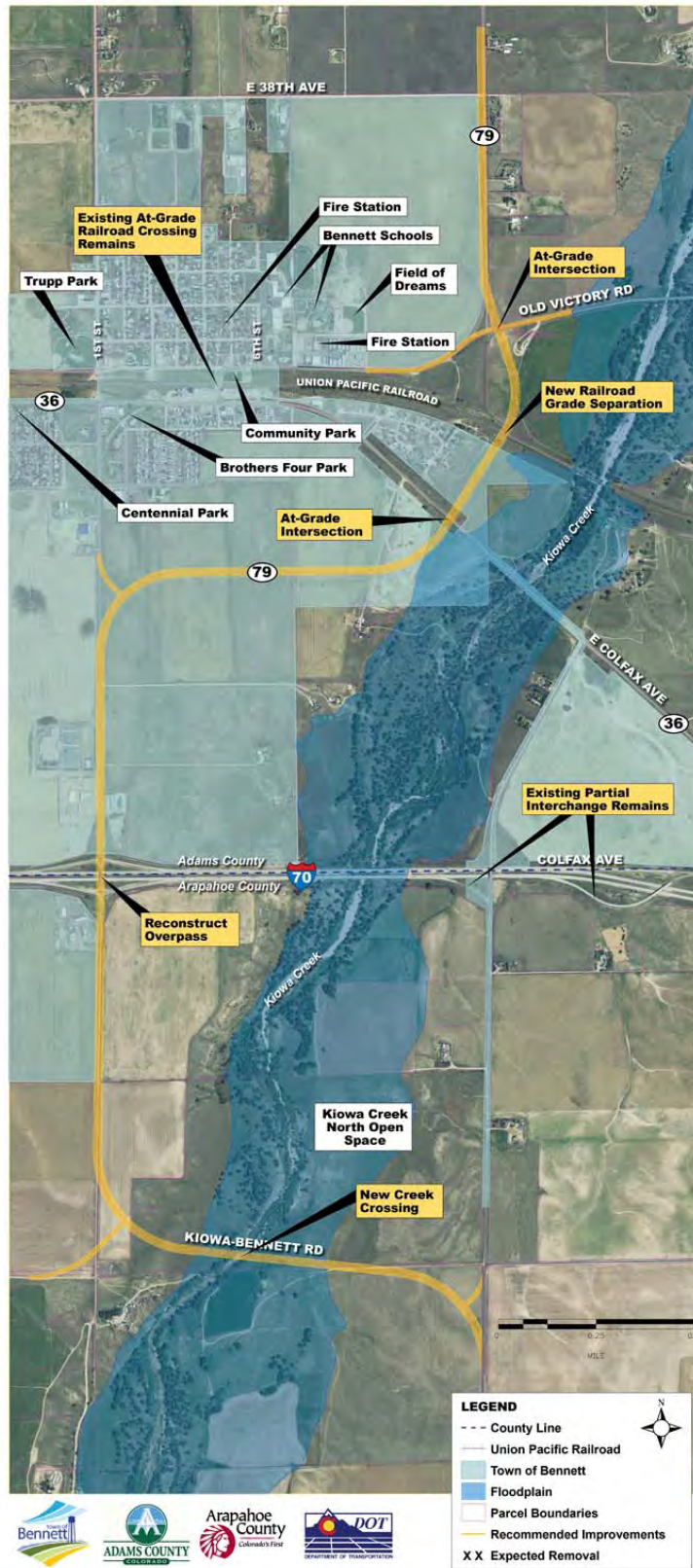
### Multimodal Connections

- Consistent with future trail network connections

### Constructability

- Relatively moderate construction costs
- Relatively low potential for construction issues anticipated
- Relatively easy for smaller usable sections to be constructed at separate times

**Figure 7: Alternative 3 - East Railroad Crossing with West Kiowa-Bennett Road Interchange Alignment**



## Evaluation

This alternative provides a regional north-south route for drivers traveling from Kiowa-Bennett Road to north of Bennett, but would only provide a minimal reduction in travel time because of the curves of the roadway to the west and back east north of I-70. This alternative provides a direct connection between Kiowa-Bennett Road and I-70 at the existing SH 79 interchange.

Regional traffic and hazardous material trucks would be removed from the downtown Bennett area with the realignment of SH 79. This would result in a 55 percent reduction of daily traffic delay experienced at the existing at-grade crossing due to regional traffic being redirected to the grade separation on SH 79.

Safety improvements include improving sight distance at the I-70 and SH 79 ramps with a new bridge over I-70, improving the intersection of SH 79 and Old Victory Road, and widening the shoulders of Kiowa-Bennett Road along the new roadway alignment. In addition to the new state highway frontage provided with the new SH 79 alignment, the realignment of Kiowa-Bennett Road to the west would allow the Town's commercial areas near the SH 79 interchange to capture additional regional traffic traveling on Kiowa-Bennett Road. This alternative accommodates future multimodal connections consistent with the planned future trail network in the area by providing the opportunity for path connections east and west of Kiowa Creek, including a Kiowa Creek crossing south of I-70, and adjacent to the development area.

This alternative is expected to have substantial environmental impacts with impacts of approximately 19 acres of the Kiowa Creek North Open Space and approximately 3 acres of threatened and endangered species area, less than half an acre of which is the prairie dog colony near the I-70 and SH 79 interchange, and 3 acres at the Kiowa-Bennett Road crossing of Kiowa Creek. Arapahoe County Open Spaces strongly opposes any roadway alignment within the Kiowa Creek North Open Space. The alternative is estimated to directly impact 25 properties with one full and 24 partial acquisitions (total = 86 acres). Of these impacted properties, 18 are residential, 4 are commercial, and 3 are public.

In comparison to other alternatives, the construction costs are relatively moderate due to the large structure required for the Kiowa Creek crossing south of I-70. There are good opportunities for phased construction of the area improvements with smaller usable sections that can be constructed at separate times while providing transportation network benefits with smaller funding sources.

Because new ramps to/from I-70 are not constructed, this alternative would not require a variance from FHWA for interchange spacing.

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## Critical Considerations

Although there are regional mobility and connectivity improvements provided with the new corridor connections, the travel time benefits for Kiowa-Bennett Road through the study area are substantially less than with other alternatives with only a minimal reduction in travel time through the study area for Kiowa-Bennett Road. The conflict and delay and safety improvements at the existing at-grade railroad crossing are similar to other alternatives with the same SH 79 realignment.

This alternative has substantially more environmental impacts than other alternatives with direct property impacts to the Kiowa Creek North Open Space and a proposed crossing of Kiowa Creek. Arapahoe County Open Spaces strongly opposes any roadway alignment within the Kiowa Creek North Open Space. The alternative also has substantially more property impacts due to the Kiowa-Bennett Road realignment, directly impacting over twice as much ROW than other alternatives. Avoiding the Kiowa Creek North Open Space resource would result in substantially more private property impacts and would likely not meet the Purpose and Need because of increased travel time along Kiowa-Bennett Road since the realignment would need to shift farther south.



Due to the combination of environmental impacts to the Kiowa Creek North Open Space and Kiowa Creek habitat area, private property impacts, as well as the relatively moderate cost for the Kiowa Creek bridge structure, this alternative is not considered reasonable and was not carried forward for further consideration.

**Conclusion:**

**ELIMINATED**

## Alternative 4 – East Railroad Crossing with East Kiowa-Bennett Road Interchange Alignment

This alternative, shown in **Figure 8**, consists of realigning SH 79 south of downtown Bennett with a grade-separated railroad crossing on SH 79 east of Bennett and realigning Kiowa-Bennett Road to the east with a full diamond interchange approximately one mile east of the existing I-70 crossing. This alternative was considered to provide a full interchange for Kiowa-Bennett Road that adheres to the two-mile FHWA interchange spacing guidelines.

### Regional Mobility and Connectivity

- 23% reduction in travel time on SH 79 from I-70 to north of Bennett
- 6% reduction in travel time on Kiowa-Bennett Road from south of I-70 to north of Bennett
- Provides connection from Kiowa-Bennett Road to I-70 with some out-of-direction travel from Kiowa-Bennett Road to I-70 west
- Two turns required for large trucks to travel from south of Bennett to north of town

### At-Grade Railroad Crossing Conflict and Delay

- Approximately 55% reduction in traffic delay at existing at-grade crossing
- Emergency responders concerned with out-of-direction travel to access Kiowa-Bennett Road

### Safety Concerns

- Hazardous materials route outside downtown Bennett
- Reduction expected in truck and pedestrian conflicts near the school because trucks will move to SH 79 realignment
- Improves sight distance at SH 79/Old Victory Road and at SH 79/I-70 ramps and Kiowa-Bennett Road shoulders are improved
- Interchange spacing meets FHWA guidelines for rural interstates

### Environmental and Community Impacts

- Less than one acre of potentially impacted parks and recreational areas
- Approximately 3 acres of potentially impacted threatened and endangered species areas
- Approximately 1,500 feet of floodplain impacts
- Approximately 74 acres of ROW impacts

### Economic Opportunities

- Adds over one mile of commercial developable SH 79 frontage consistent with future zoning

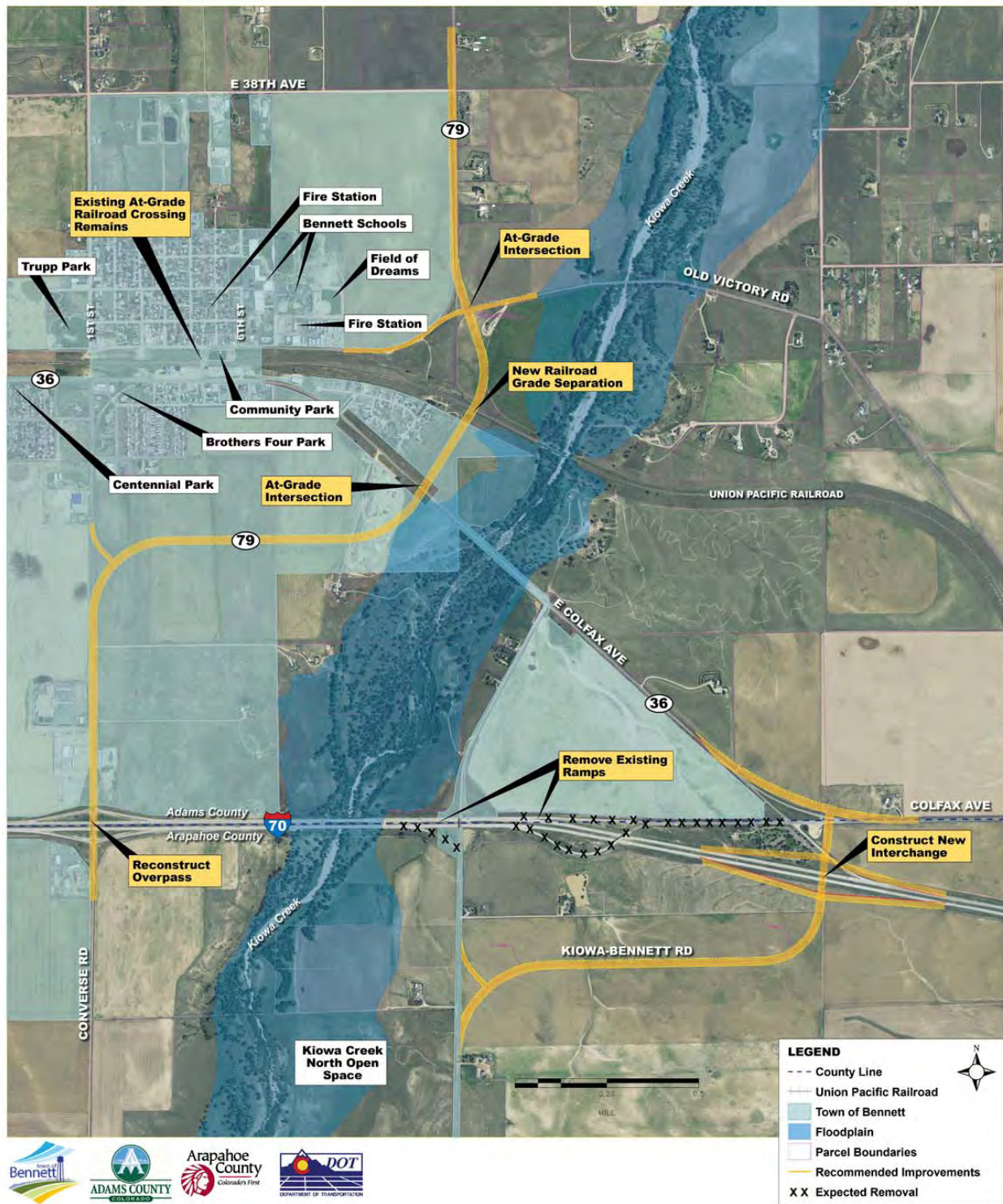
### Multimodal Connections

- Consistent with future trail network connections

### Constructability

- Relatively moderate construction costs
- Relatively low potential for construction issues anticipated
- Relatively easy for smaller usable sections to be constructed at separate times

**Figure 8: Alternative 4 - East Railroad Crossing with East Kiowa-Bennett Road Interchange Alignment**



## Evaluation

This alternative provides a direct connection between Kiowa-Bennett Road and I-70, but would provide a lower travel time benefit than other alternatives for drivers traveling from Kiowa-Bennett Road towards the Denver metropolitan area due to the eastern out-of-direction travel. Drivers on Kiowa-Bennett Road can access SH 79 without traveling through downtown Bennett by traveling to Colfax Avenue/US 36 and the railroad grade separation on SH 79, but this would only provide a minimal reduction in travel time because of the curve of the roadway to the east.

Regional traffic and hazardous material trucks would be removed from the downtown Bennett area with the realignment of SH 79. This would result in a 55 percent reduction of daily traffic delay experienced at the existing at-grade crossing due to regional traffic being redirected to the grade separation on SH 79.

Safety improvements include improving sight distance at the I-70 and SH 79 ramps with a new bridge over I-70, improving the layout of the intersection of SH 79 and Old Victory Road, and widening the shoulders of Kiowa-Bennett Road along the new roadway alignment. The new SH 79 alignment would add over one mile of state highway frontage for commercial developable property within Town limits consistent with future zoning of the area south of downtown Bennett as a new mixed use commercial area. This alternative accommodates future multimodal connections consistent with the planned future trail network in the area by providing the opportunity for path connections west of Kiowa Creek and adjacent to the Bennett development area, although future plans do not include trails along the eastern Kiowa-Bennett Road alignment .

This alternative has less than one acre of potential impacts to the North Kiowa Creek Open Space with the realignment of Kiowa-Bennett Road. It is estimated to impact 3 acres of threatened and endangered species area, less than a half an acre of which is the prairie dog colony near the SH 79 interchange, and 3 acres at the riparian area at Colfax Avenue north of I-70. This alternative has no impacts to the Kiowa Creek habitat area. It is estimated to directly impact 25 properties with one full and 24 partial acquisitions (total = 74 acres). Of these properties, 19 are residential, 3 are commercial, and 3 are public.

In comparison to other alternatives, the construction costs are relatively moderate with the construction of a new Kiowa-Bennett Road alignment and the associated ROW costs. There are good opportunities for phased construction of the area improvements with smaller usable sections that can be constructed at separate times while providing transportation network benefits with smaller funding sources.

This alternative meets the two-mile interchange spacing guidelines for rural interstates and, therefore would not require a variance from FHWA.

## Critical Considerations

There are regional mobility and connectivity improvements with reductions in travel time provided with the new corridor connections. However, the travel time benefits for Kiowa-Bennett Road to I-70 and through the study area are less than other alternatives. The conflict and delay and safety improvements at the existing at-grade railroad crossing are similar to other alternatives with the same SH 79 realignment. Safety concerns are addressed with improvements to existing geometric deficiencies at SH 79/Old Victory Road, the SH 79/I-70 ramps, and along the new Kiowa-Bennett Road alignment. This alternative will not require a variance from FHWA for interchange spacing.

Because this interchange meets the Purpose and Need by improving regional mobility and connectivity, reducing conflict and delay at the at-grade railroad crossing, and addressing critical safety concerns while minimizing environmental impacts, this alternative was carried forward for further consideration.

## Conclusion:

**CARRIED FORWARD**

## Alternative 5 – East Railroad Crossing with Central Kiowa-Bennett Road Alignment

This alternative, shown in **Figure 9**, consists of realigning SH 79 south of downtown Bennett with a grade-separated railroad crossing on SH 79 east of Bennett and realigning Kiowa-Bennett Road across Kiowa Creek to meet the new SH 79 alignment north of I-70. A split diamond interchange is provided between SH 79 and Kiowa-Bennett Road and I-70 to provide ramp spacing to meet FHWA guidelines.

### Regional Mobility and Connectivity

- 23% reduction in travel time on SH 79 from I-70 to north of Bennett
- 20% reduction in travel time on Kiowa-Bennett Road from south of I-70 to north of Bennett
- Provides a direct connection from Kiowa-Bennett Road to I-70
- One turn required for large trucks to travel from south of Bennett to north of town

### At-Grade Railroad Crossing Conflict and Delay

- Approximately 55% reduction in traffic delay at existing at-grade crossing
- Emergency responders concerned with additional stops on I-70 ramp connections

### Safety Concerns

- Hazardous materials route outside downtown Bennett
- Reduction expected in truck and pedestrian conflicts near the school because trucks will move to SH 79 realignment
- Improves sight distance at SH 79/Old Victory Road and at SH 79/I-70 ramps
- Interchange spacing meets FHWA guidelines for rural interstates

### Environmental and Community Impacts

- No impacts to parks and recreational areas
- Approximately 15 acres of potentially impacted threatened and endangered species areas
- Approximately 7,200 feet of floodplain impacts
- Approximately 69 acres of ROW impacts

### Economic Opportunities

- Adds over one mile of commercial developable SH 79 frontage consistent with future zoning

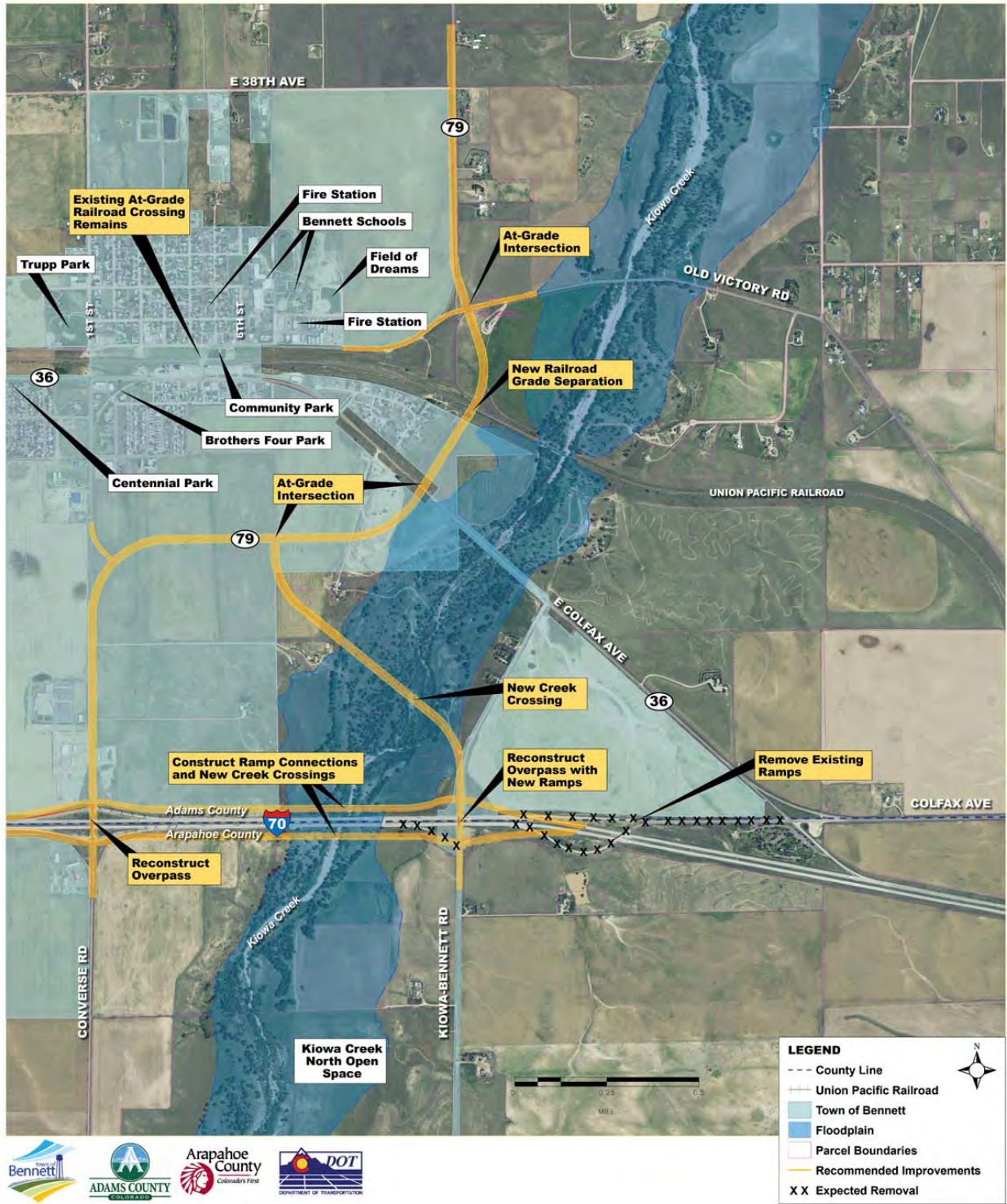
### Multimodal Connections

- Consistent with future trail network connections

### Constructability

- Relatively high construction costs
- Relatively high complexity of construction issues anticipated
- Relatively moderate opportunities for phasing because of the larger cost to implement individual sections

**Figure 9: Alternative 5 - East Railroad Crossing with Central Kiowa-Bennett Road Alignment**



## Evaluation

This alternative provides a split diamond configuration between the I-70 interchanges with SH 79 and Kiowa-Bennett Road in order to adhere to the FHWA guidance of two-mile spacing for rural interchanges. This provides a connection between Kiowa-Bennett Road and I-70, but an additional stop would be required at the SH 79 ramps entering and exiting I-70, which results in a lower travel time benefit than other alternatives for drivers traveling from Kiowa-Bennett Road south of I-70 towards the Denver metropolitan area.

Regional traffic and the trucks carrying hazardous materials would be removed from the downtown Bennett area with the realignment of SH 79. This would result in a 55 percent reduction of daily traffic delay experienced at the existing at-grade crossing due to regional traffic being redirected to the grade separation on SH 79.

Safety improvements include improving sight distance at the I-70 and SH 79 ramps with a new bridge over I-70 as well as improving the intersection of SH 79 and Old Victory Road. The Kiowa-Bennett Road and I-70 interchange would be reconstructed to provide full ramp movements for both directions on and off the freeway. In addition to the new state highway frontage provided with the new SH 79 alignment, the realignment of Kiowa-Bennett Road to meet SH 79 would provide a direct connection for Kiowa-Bennett Road traffic to the new mixed use commercial development area south of downtown Bennett. This alternative accommodates future multimodal connections consistent with the planned future trail network in the area by providing the opportunity for path connections east and west of Kiowa Creek, including a Kiowa Creek crossing north of I-70, and adjacent to the development area.

This alternative has no expected impacts to parks and recreational areas, but negative impacts are expected to the Kiowa Creek habitat area with the new structures for the two split diamond ramp connections and the Kiowa-Bennett Road realignment, totaling 15 acres of potentially impacted threatened and endangered species area. The impacts include 2 acres to the prairie dog colony near the I-70 and SH 79 interchange, and 8 acres of impacts to Kiowa Creek at the split diamond interchange ramps, and an additional 5 acres at the north Kiowa Creek crossing. The alternative has substantial impacts to sensitive biological habitat with the additional 2,500 feet of structure for Kiowa-Bennett Road over the floodplain of Kiowa Creek. The alternative is estimated to directly impact 29 properties with one full and 28 partial acquisitions (total = 69 acres). Of these impacted properties, 22 are residential, 5 are commercial, and 2 are public.

In comparison to other alternatives, the construction costs are relatively high due to the three additional structures across Kiowa Creek. There are opportunities for phased construction of the area improvements with smaller usable sections, but the SH 79 and Kiowa-Bennett Road interchange improvements would require a larger funding source because the split interchange configuration must be constructed as one project.

This alternative meets the two-mile interchange spacing guidelines for rural interstates and, therefore would not require a variance from FHWA.

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## Critical Considerations

Although there are regional mobility and connectivity improvements with reductions in travel time provided with the new corridor connections, the travel time benefits for Kiowa-Bennett Road through the study area are lower than with other alternatives. The conflict and delay and safety improvements at the existing at-grade railroad crossing are similar to other alternatives with the same SH 79 realignment.

This alternative has substantially more environmental impacts, directly impacting at least 50 percent more threatened and endangered species area and over 50 percent more floodplain than other alternatives with the three new structures across Kiowa Creek. The floodplain impacts result in substantial impacts to sensitive biological habitat. Shifting the Kiowa-Bennett Road realignment cannot avoid or minimize these additional floodplain and habitat area impacts because the floodplain (and associated habitat area) is relatively wide between I-70 and Colfax Avenue/US 36.

Due to the combination of the substantial environmental impacts to the Kiowa Creek floodplain and habitat area and the relatively high cost for the multiple Kiowa Creek bridge structures, this alternative is not considered reasonable and was not carried forward for further consideration.

**Conclusion:**

**ELIMINATED**



## Alternative 6 – East SH 79 Alignment with Kiowa-Bennett Railroad Crossing

This alternative, shown in **Figure 10**, consists of a full interchange at Kiowa-Bennett Road and I-70 with SH 79 shifted to the new interchange and a grade-separated railroad crossing near Kiowa Creek east of Bennett.

### Regional Mobility and Connectivity

- 37% reduction in travel time on SH 79 from I-70 to north of Bennett
- 28% reduction in travel time on Kiowa-Bennett Road from south of I-70 to north of Bennett
- Provides a direct connection from Kiowa-Bennett Road to I-70
- No turns required for large trucks to travel from south of Bennett to north of town

### At-Grade Railroad Crossing Conflict and Delay

- Approximately 50% reduction in traffic delay at existing at-grade crossing
- Addresses emergency responder primary concerns of a direct connection from Kiowa-Bennett to I-70, a direct route from the fire station to Kiowa-Bennett south of I-70, and removing trucks and traffic congestion downtown

### Safety Concerns

- Hazardous materials route outside downtown Bennett
- Reduction expected in truck and pedestrian conflicts near the school, but not to the extent of other alternatives
- Improves sight distance at SH 79/Old Victory Road
- Interchange spacing less than FHWA guidelines for rural interstates

### Environmental and Community Impacts

- Not consistent with Town land use plans
- No impacts to parks and recreational areas
- Approximately 10 acres of potentially impacted threatened and endangered species areas
- Approximately 3,400 feet of floodplain impacts
- Approximately 27 acres of ROW impacts

### Economic Opportunities

- Adds over one mile of commercial developable SH 79 frontage consistent with future zoning

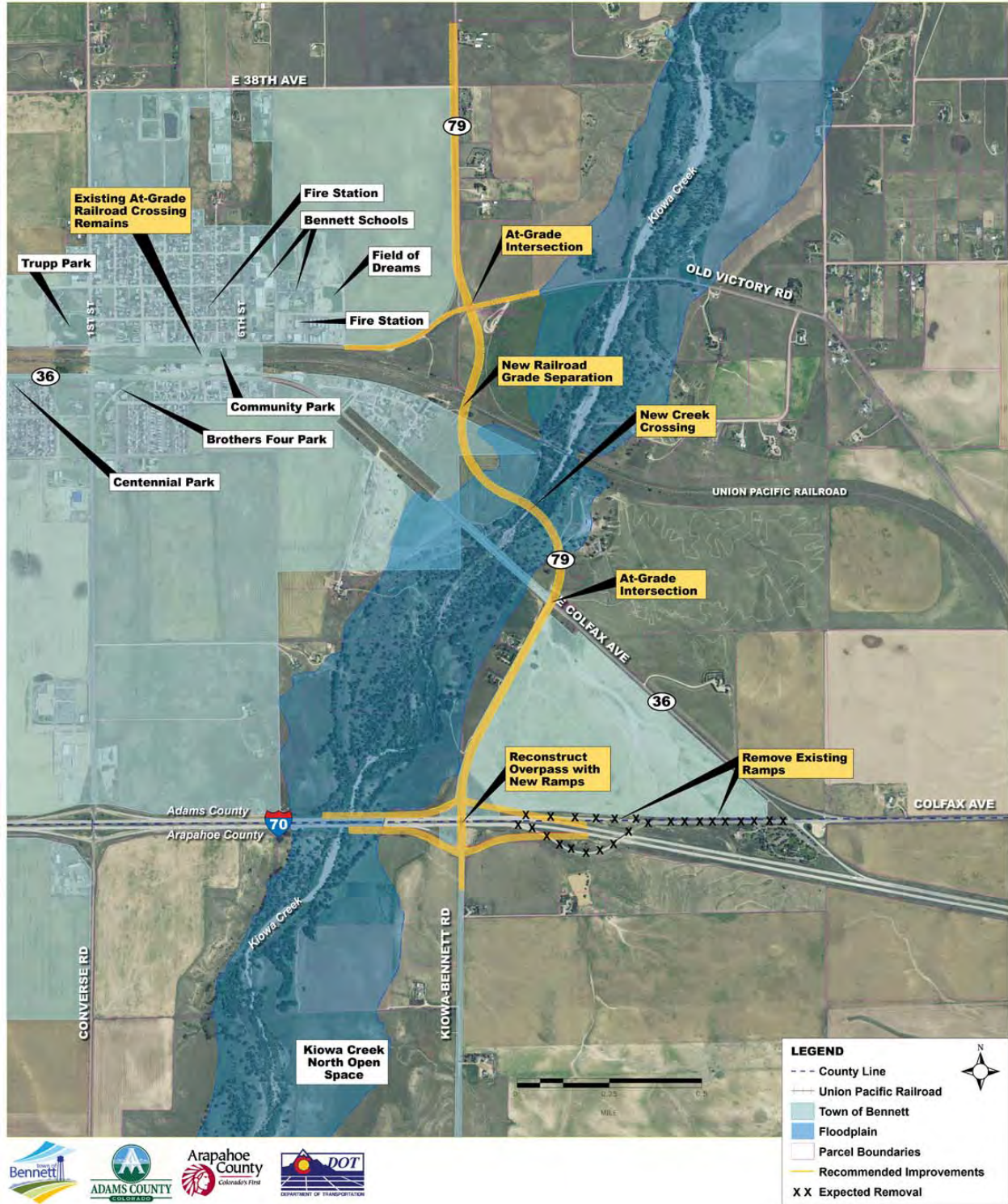
### Multimodal Connections

- Not consistent with future trail network connections

### Constructability

- Relatively moderate construction costs
- Relatively moderate potential for construction issues anticipated
- Relatively difficult to construct meaningful stand-alone sections

Figure 10: Alternative 6 - East SH 79 with Kiowa-Bennett Railroad Crossing



## Evaluation

This alternative provides a direct connection between Kiowa-Bennett Road and I-70 at the current Kiowa-Bennett Road crossing, which substantially reduces travel times for drivers traveling from Kiowa-Bennett Road south of I-70 towards the Denver metropolitan area. The SH 79 realignment directly north from the I-70 interchange would also provide regional travelers on SH 79 a direct northern route that would not travel through downtown Bennett. Drivers on Kiowa-Bennett Road wishing to access SH 79 north can access the highway without traveling through downtown Bennett by traveling to Colfax Avenue/US 36 and the railroad grade separation on SH 79.

Regional traffic and the hazardous material trucks would be removed from the downtown Bennett area with the realignment of SH 79. However, this alternative results in slightly lower reduction in delay and conflicts than with other alternatives because traffic traveling from the west on Colfax Avenue/US 36 would likely continue to utilize the existing at-grade crossing to access SH 79 north of Bennett.

Safety improvements include improving the layout of the intersection of SH 79 and Old Victory Road. The Kiowa-Bennett Road and I-70 interchange would be reconstructed to provide full ramp movements for both directions on and off the freeway.

The alternative is not consistent with local and regional land use, economic development, and multimodal plans. This alternative would not provide notable new state highway frontage because the floodplain and structures at the railroad and Kiowa Creek would limit development along SH 79. The SH 79 realignment would also limit regional traffic traversing the planned mixed use commercial development area. This alternative does not accommodate local multimodal plans because the planned future trail network includes trail connections from SH 79 west of Kiowa Creek and adjacent to the development area into downtown Bennett. The alignment negatively impacts the existing and planned economic development areas for the Town of Bennett located around the I-70 and SH 79 interchange.

This alternative has direct impacts to the Kiowa Creek habitat area with the new structure between Colfax Avenue/US 36 and the railroad grade separation. Impacts from the Kiowa-Bennett Road ramps at I-70 total 10 acres of potentially impacted threatened and endangered species. The alternative has relatively low ROW impacts, directly impacting 16 properties, which would all be partial acquisitions (total = 27 acres). Of these impacted properties, 15 are residential and 1 is public.

This alternative would be difficult to divide into smaller usable sections to construct at separate times. The SH 79 railroad grade separation and Kiowa Creek structure would require a larger funding source because of the complexity of the structures crossing the creek and the railroad close together and they would need to be constructed as one project. This limits the funding opportunities, and the ultimate implementation, of the project.

This alternative includes one-mile spacing between interchanges, which is less than what is recommended by FHWA for rural interchanges and would therefore require a variance.

## Critical Considerations

There are regional mobility and connectivity improvements with substantial reductions in travel time provided with the new corridor connections. However, the conflict and delay benefits and safety improvements in downtown Bennett are less than other alternatives. This alternative has more environmental impacts than other alternatives, directly impacting the Kiowa Creek habitat area. While the ROW impacts are relatively low, the alternative is not consistent with local and regional plans for land use, economic development, or multimodal connections. The alignment negatively impacts the existing and planned economic development areas for the Town of Bennett located around the I-70 and SH 79 interchange.

Due to the combination of the slight reduction in delay and safety benefits for downtown Bennett, Kiowa Creek habitat area impacts, inconsistency with local and regional plans, negative impacts to existing and planned Bennett economic development, as well as the relatively moderate cost and difficulty to construct in phases, this alternative is not considered reasonable and was not carried forward for further consideration.

**Conclusion:**

**ELIMINATED**

## Alternative 9 – Central Railroad Crossing with West Kiowa-Bennett Road Alignment

This alternative, shown in **Figure 11**, consists of realigning SH 79 directly north through Bennett with a grade-separated railroad crossing on SH 79 in downtown Bennett along 1st Avenue and realigning Kiowa-Bennett Road to the west to meet the SH 79 interchange at I-70.

### Regional Mobility and Connectivity

- 12% reduction in travel time on SH 79 from I-70 to north of Bennett
- 4% increase in travel time on Kiowa-Bennett Road from south of I-70 to north of Bennett
- Provides connection from Kiowa-Bennett Road to I-70 at existing SH 79 interchange
- No turns required for large trucks to travel from south of Bennett to north of town

### At-Grade Railroad Crossing Conflict and Delay

- Approximately 65% reduction in traffic delay at existing at-grade crossing
- Limited access to grade-separated crossing may reduce number of buses using it
- Does not address emergency responders concerns of providing a direction connection from Kiowa-Bennett to I-70 or removing trucks and traffic congestion downtown

### Safety Concerns

- Hazardous materials route travels through residential area
- Regional truck traffic may utilize local street network with pedestrian conflicts near the school
- Improves sight distance at SH 79/I-70 ramps and Kiowa-Bennett Road shoulders are improved
- No change to interchange spacing over existing conditions

### Environmental and Community Impacts

- Not consistent with Town land use plans
- Approximately 19 acres of potentially impacted parks and recreational areas
- Approximately 3 acres of potentially impacted threatened and endangered species areas
- Approximately 1,800 feet of floodplain impacts
- Approximately 98 acres of ROW impacts

### Economic Opportunities

- Adds less than one mile of commercial developable SH 79 frontage consistent with future zoning

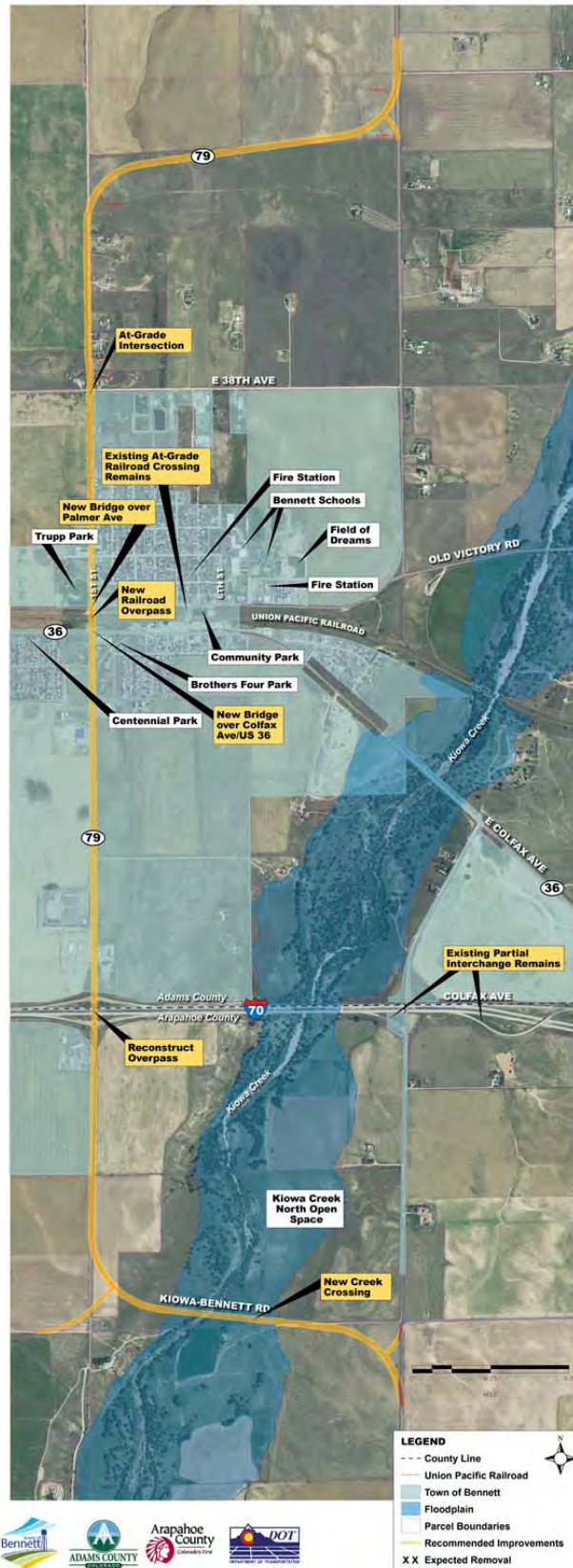
### Multimodal Connections

- Not consistent with future trail network connections

### Constructability

- Relatively high construction costs
- Relatively high complexity of construction issues anticipated
- Easier railroad coordination than with other alternatives due to overpass and location
- Relatively difficult to construct meaningful stand-alone sections

Figure 11: Alternative 9 - Central Railroad Crossing with West Kiowa-Bennett Alignment



## Evaluation

This alternative provides a regional north-south route for drivers traveling from Kiowa-Bennett Road to north of Bennett, but would only provide a minimal reduction in travel time for Kiowa-Bennett Road because of the curves of the roadway to the west and back east north of Bennett. The minimal reduction in travel time on SH 79 is due to the lower speed limit that would be required along the west edge of downtown Bennett. This alternative provides a direct connection between Kiowa-Bennett Road and I-70 at the existing SH 79 interchange.

Regional traffic and the trucks carrying hazardous materials would be removed from the downtown Bennett area with the realignment of SH 79, although the traffic and trucks would be adjacent to the existing developed residential area north of downtown. This would result in a 55 percent reduction of daily traffic delay experienced at the existing at-grade crossing due to regional traffic being redirected to the grade separation on SH 79. Due to vertical grade differences required at the railroad grade separation, there would not be a direct connection between Colfax Avenue/US 36 and SH 79, which would result in a higher volume of regional traffic on residential streets. However, the grade separation within the downtown area would lead to a higher reduction of traffic delay at the existing at-grade crossing because more local traffic may use the grade separation.

Safety improvements include improving sight distance at the I-70 and SH 79 ramps with a new bridge over I-70 and widening the shoulders of Kiowa-Bennett Road along the new roadway alignment south of I-70. This alternative would not provide notable new state highway frontage within areas zoned for mixed use or commercial development. Conversely, the SH 79 alignment is inconsistent with local land use plans because it would place a regional arterial highway through existing and planned residential neighborhoods and the rural preservation area north of downtown Bennett. However, the realignment of Kiowa-Bennett Road to the west south of I-70 would allow the Town's commercial areas near the SH 79 interchange to capture additional regional traffic traveling on Kiowa-Bennett Road.

This alternative also does not accommodate local multimodal plans because the planned future trail network includes trail connections east and west of Kiowa Creek and adjacent to the planned development area south of downtown.

This alternative is expected to impact a substantial amount of parks and recreational area, including the North Kiowa Creek Open Space with the Kiowa-Bennett Road realignment and Trupp Park with the SH 79 realignment (total = 19 acres). Arapahoe County Open Spaces strongly opposes any roadway alignment within the Kiowa Creek North Open Space. This alternative has direct impacts to the Kiowa Creek habitat area with the new structure over Kiowa Creek, totaling 3 acres of potentially impacted threatened and endangered species. The SH 79 realignment along 1st Avenue would require extensive ROW acquisition with a large number of residential homes. The alternative is estimated to directly impact 77 properties with 22 full and 55 partial acquisitions (total = 98 acres). Of these impacted properties, 52 are residential, 14 are commercial, and 11 are public.

In comparison to other alternatives, the construction costs are relatively high due to the ROW acquisition and construction impacts of the SH 79 alignment and the large structure required for the Kiowa Creek crossing south of I-70. This alternative would be difficult to divide into smaller usable sections to construct at separate times. To provide network benefits, the entire SH 79 realignment from I-70 to north of Bennett would need to be constructed as one project. This would require a larger funding source because of the ROW acquisition required and complexity of the construction while maintaining local and regional traffic.

Because new ramps to/from I-70 are not constructed, this alternative would not require a variance from FHWA for interchange spacing.

### Critical Considerations

The travel time benefits for SH 79 and Kiowa-Bennett Road through the study area are substantially less than with other alternatives with only a minimal (about 10 percent) reduction in travel time through the study area for SH 79 and a small increase in travel time through the study area for Kiowa-Bennett Road. The expected conflict and delay benefits at the existing at-grade railroad crossing and safety improvements are also less than other alternatives.

This alternative negatively impacts residential properties within downtown Bennett, directly impacting almost three times the number of properties compared to the other alternatives. It also has more broad environmental impacts than other alternatives with direct property impacts to the North Kiowa Creek Open Space, Trupp Park, and Kiowa Creek habitat area. The direct property impacts to the Kiowa Creek North Open Space include a proposed crossing of Kiowa Creek. Arapahoe County Open Spaces strongly opposes any roadway alignment within the Kiowa Creek North Open Space. Avoiding the Kiowa Creek North Open Space resource would result in even more private property impacts south of I-70.

The alternative is not consistent with local and regional plans for land use, economic development, or multimodal connections.

Due to the combination of the reduced travel time benefits, environmental impacts to parks and recreation areas and wildlife habitat, private property impacts, and inconsistency with project goals for local plans, as well as the relatively high cost, this alternative is not considered reasonable and was not carried forward for further consideration.

### Conclusion:

**ELIMINATED**



## Level 3 Alternatives Screening

With the Level 3 alternatives evaluation, steps were taken to further narrow the alternatives and to refine the design elements of the remaining alternatives. The four alternatives carried forward from Level 2 screening were:

- No Action
- Alternative 1—East Railroad Crossing with Full Kiowa-Bennett Road Diamond Interchange
- Alternative 2—East Railroad Crossing with Split Kiowa-Bennett Road Diamond Interchange
- Alternative 4—East Railroad Crossing with East Kiowa-Bennett Road Interchange Alignment

Meetings with stakeholders and a public open house were held to present the Level 2 evaluation results and recommendations. Comments from the public and stakeholders indicated general concurrence with the Level 2 recommendations. Input on the remaining alternatives was considered in the Level 3 evaluation.

The evaluation criteria from Level 2 were narrowed and adjusted to show where there was a notable difference between remaining alternative concepts. Input provided during meetings with the TAC and area stakeholders, presentations to local agency elected officials, and the general public open house was considered in the evaluation criteria. The Level 3 evaluation criteria and performance measures were:

- Regional Mobility and Connectivity
  - Travel Time
  - I-70 Connection
  - Ramp and Freeway Operations
- Environmental Impacts
  - Potential Impacts to Parks and Recreational Areas and Sensitive Biological Habitat
- Property Impacts
  - ROW Required
  - Types of Property Impacts
- Project Costs
  - Phased Probable Costs
- Stakeholder and Public Input
  - General Support and Concerns

## Level 3 Screening Evaluation

The four remaining alternatives were evaluated in more detail with additional conceptual design refinement and traffic operations analysis to further define alternative performance related to the Level 3 evaluation criteria. The existing and projected safety issues and concerns are considered in the Level 3 evaluation with the close relationship to the regional mobility and connectivity of the SH 79 and Kiowa-Bennett Road corridors and ramp and freeway operations. The evaluation is summarized in **Table 2**.

### *Regional Mobility and Connectivity*

The travel time and forecasted 2035 interchange operations were evaluated for the key movements through the study area using Highway Capacity Manual methodology. There is a notable difference in the Kiowa-Bennett Road travel time with Alternative 4, which is 1.5 minutes more than the travel time with the other action alternatives. The split diamond ramp connections with Alternative 2 reduce the benefits of a direct connection between I-70 and Kiowa-Bennett Road compared to the other alternatives that have full movement interchanges at both SH 79 and Kiowa-Bennett Road.

The American Association of State Highway and Transportation Officials uses the term level of service (LOS) to describe the operational characteristics of intersections and roadways. LOS is related to control delay at intersection and speed and density at ramp merge and diverge areas as a measure of traffic flow and level of congestion, measured on a scale of A to F. LOS A describes conditions with essentially uninterrupted flow and minimal delay. LOS F describes a breakdown of traffic flow with excessive congestion delay. In urban and suburban areas, LOS D is generally considered to be acceptable for peak hour operations. In the *Arapahoe County 2035 Transportation Plan*, it states that Arapahoe County considers LOS C the minimum operational standard for arterial roadways in rural areas.

The SH 79 and Kiowa-Bennett Road interchange ramp merge and diverge areas with I-70 are expected to operate with essentially uninterrupted flow and minimal delay at LOS A or B with all alternatives. This indicates that the two-mile interchange spacing is not necessary to maintain acceptable freeway and ramp operations, and the freeway would not be negatively impacted with the one-mile interchange spacing in Alternative 1. Based on the LOS A and B operations, it is anticipated that a variance can be obtained from FHWA for the one-mile interchange spacing with the new ramps at Kiowa-Bennett Road.

Due to the concentration of traffic accessing the split diamond ramp connections between interchanges, the ramp intersections on SH 79 and on Kiowa-Bennett Road operate worse with Alternative 2 than with the other alternatives. Both ramp intersections at SH 79 and the eastbound ramp intersection at Kiowa-Bennett Road would warrant signalization to achieve the acceptable LOS D or better with Alternative 2. With Alternative 1 or Alternative 4, only the eastbound ramp intersection at SH 79 would warrant signalization and all ramp intersections would operate at LOS B during the peak hours. Other intersection configurations and control, such as roundabouts, may also be considered.

### *Environmental Impacts*

There are no parks and recreational area impacts and minimal impacts to the Kiowa Creek habitat area under Alternative 1. Alternative 2 would impact future trail plans to cross I-70 and more Kiowa Creek habitat area because of two structures for the ramp connections of the split diamond interchange configuration. Alternative 4 has more environmental impacts than Alternative 1, but fewer environmental impacts than Alternative 2. The realignment of Kiowa-Bennett Road with Alternative 4 impacts a small amount of Kiowa Creek North Open Space and also impacts nesting habitat areas around Colfax Avenue north of I-70.

### *Property Impacts*

Alternative 1 has the lowest number of properties impacted, with a total of 21 properties being partially impacted. It also has the fewest number of acres that would need to be acquired by the action alternatives. Alternative 2 requires almost 40 percent more residential and commercial ROW area than Alternative 1 because of the ramp connections along I-70 with the split diamond interchange configuration. Alternative 4 requires 80 percent more ROW area than Alternative 1 due to the new Kiowa-Bennett Road alignment across agricultural property and adjacent to single family homes.

### *Project Costs*

The realignment of SH 79 consists of the same conceptual layout for all three Level 3 action alternatives, so the construction costs are the same between the alternatives for this portion of the project. The Kiowa-Bennett Road and I-70 interchange connection would cost substantially less with Alternative 1 than Alternative 2 due to the two additional structures over Kiowa Creek and new ramp roadway connections required for the split diamond interchange configuration. The cost estimate for Alternative 4 is more than Alternative 1 cost due to the additional ROW and new roadway and bridge construction required to align Kiowa-Bennett Road to a new interchange farther east.

The conceptual cost estimates are provided in **Appendix D**. The ROW cost estimates assume a square-foot unit cost for the estimated partial acquisitions.

### *Stakeholder and Public Input*

During the public involvement activities and outreach throughout the PEL study, the most common concerns expressed by the general public were for private property impacts and impacts to the sensitive wildlife habitat along Kiowa Creek. Of the remaining three action alternatives, Alternative 1 minimizes private property impacts to the greatest extent with the lowest ROW acquisition and least number of properties impacted. Alternative 1 also has the smallest environmental impacts because there are no parks and recreational area impacts and minimal impacts to the Kiowa Creek habitat area.

### **Level 3 Screening Results**

After a comparison of the three action alternatives against the Level 3 criteria, Alternative 1 (East Railroad Crossing with Full Kiowa-Bennett Road Diamond Interchange) was determined to meet the Purpose and Need and project goals to the highest degree while minimizing environmental and community impacts. Therefore, Alternative 1 is the Recommended Alternative to carry forward into future NEPA processes.

TAC members agreed to the identification of Alternative 1 as the Recommended Alternative from this PEL study. Meetings with stakeholders were held, along with local elected official presentations, to present the alternatives development and evaluation results and recommendations. Comments from the stakeholders indicated general concurrence with the evaluation results.

Further definition and evaluation the Recommended Alternative are described in the Study Recommendations section of this report.

**Table 2: Level 3 Alternatives Evaluation**

EVALUATION CRITERIA	PERFORMANCE MEASURE	NA	1	2	4
		No ACTION	EAST RR CROSSING WITH FULL KIOWA-BENNETT DIAMOND	EAST RR CROSSING WITH SPLIT KIOWA-BENNETT DIAMOND	EAST RR CROSSING WITH EAST KIOWA-BENNETT ALIGNMENT
Regional Mobility and Connectivity	Travel time through study area (minutes)	On SH 79: 6.5 min On K-B: 8.9 min	On SH 79: 5.0 min On K-B: 6.9 min	On SH 79: 5.0 min On K-B: 6.9 min	On SH 79: 5.0 min On K-B: 8.4 min
	I-70 connection to/from Kiowa-Bennett Road	No direct connection for I-70 & K-B ex. WB off ramp	Full interchange for I-70 & K-B at existing K-B alignment	I-70 interchange on/off movements split between SH 79 and K-B	Full interchange for I-70 and K-B, but moved one mile east of existing K-B alignment
	Interchange intersection operations - 2035 (AM/PM Peak Hour Intersection Level of Service)	<u>I-70/SH 79:</u> EB Ramps: A/B (signal) WB Ramps: B/C  <u>I-70/K-B:</u> EB Ramp: A/A WB Ramps: NA	<u>I-70/SH 79:</u> EB Ramps: B/B (signal) WB Ramps: B/B  <u>I-70/K-B:</u> EB Ramps: B/B WB Ramps: B/B	<u>I-70/SH 79:</u> EB Ramps: B/D (signal) WB Ramps: B/B (signal)  <u>I-70/K-B:</u> EB Ramps: B/B (signal) WB Ramps: C/C	<u>I-70/SH 79:</u> EB Ramps: B/B (signal) WB Ramps: B/B  <u>I-70/K-B:</u> EB Ramps: B/B WB Ramps: B/B
	Interchange ramp operations - 2035 (AM/PM Peak Hour Merge and Diverge Level of Service)	<u>I-70/SH 79:</u> EB Diverge: A/B EB Merge: A/B WB Diverge: B/B WB Merge: B/B  <u>I-70/K-B:</u> EB Diverge: A/B EB Merge: A/A	<u>I-70/SH 79:</u> EB Diverge: A/B EB Merge: A/B WB Diverge: B/B WB Merge: B/B  <u>I-70/K-B:</u> EB Diverge: A/B EB Merge: A/B WB Diverge: A/A WB Merge: B/B	<u>I-70/SH 79:</u> EB Diverge: A/B WB Merge: B/B  <u>I-70/K-B:</u> EB Merge: A/B WB Diverge: A/A	<u>I-70/SH 79:</u> EB Diverge: A/B EB Merge: A/B WB Diverge: B/B WB Merge: B/B  <u>I-70/K-B:</u> EB Diverge: A/B EB Merge: A/B WB Diverge: A/A WB Merge: B/B
Environmental Impacts	Potential impacts to parks & recreational areas and sensitive biological habitat	None	No parks & recreational area impacts Small Kiowa Creek area habitat impacts with mainline I-70 bridge widening for added ramps	Impacts to Arapahoe County Open Spaces trail plans to cross I-70 Moderate Kiowa Creek area habitat impacts with new bridges for ramp connection roadways	Small impact to North Kiowa Creek Open Space for K-B realignment Impacts to riparian nesting habitat at Colfax Ave/I-70
Property Impacts	ROW acquisition required (acres & properties)	None	Full = None Partial = 41.23 ac (21 properties) Total = 41.23 ac (21 properties)	Full = None Partial = 57.09 ac (25 properties) Total = 57.09 ac (25 properties)	Full = None Partial = 74.03 ac (24 properties) Total = 74.03 ac (24 properties)
	Types of property impacts	N/A	New SH 79 alignment through planned development property Limited K-B interchange property impacts	New SH 79 alignment through planned development property K-B interchange property impacts along I-70	New SH 79 alignment through planned development property New K-B alignment through farm property with adjacent homes
Project Costs	Probable costs (with right-of-way)	None	SH 79 (RR) = \$11 – 14 M SH 79 = \$18 – 21 M K-B = \$6 – 7 M	SH 79 (RR) = \$11 – 14 M SH 79 = \$18 – 21 M K-B = \$18 – 21 M	SH 79 (RR) = \$11 – 14 M SH 79 = \$18 – 21 M K-B = \$11 – 13 M
Stakeholder and Public Input	General support and concerns	Public support to avoid any private property impacts	Public concern with impacts of RR crossing on Cordella residential area Public concern for private property & wildlife impacts Public & stakeholder support for full K-B interchange	Public concern with impacts of RR crossing on Cordella residential area Public concern for private property & wildlife impacts Public & stakeholder support for full K-B interchange	Public concern with impacts of RR crossing on Cordella residential area Public concern for private property impacts with K-B realignment

**Legend:**

EB = Eastbound  
WB = Westbound  
RR = Railroad  
K-B = Kiowa-Bennett Road

# STUDY RECOMMENDATIONS

Based on the results of the alternatives development and evaluation process, one Recommended Alternative for area transportation network improvements will be carried forward into future NEPA evaluation and further project development. This evaluation information will be used to identify a Preferred Alternative during NEPA scoping.

Based on the PEL process, including a thorough alternatives evaluation and input from the area stakeholders, project TAC, and the general public, Alternative 1 is the Recommended Alternative to carry forward into future NEPA processes because it was found to meet the Purpose and Need to the highest degree while minimizing environmental and community impacts.

The Recommended Alternative is shown in **Figure 12**. The design concept for the Recommended Alternative is shown in a conceptual plan set included in **Appendix E**. Design elements of Alternative 1 were refined to add more definition, considering design solutions to minimize costs and property impacts while maximizing corridor benefits. This information may be utilized for further assessment during a future NEPA process.

This section describes the Recommended Alternative in more detail along with considerations for future implementation. The potential separate project phasing opportunities were also identified with the associated costs. To implement separate project phases, care must be taken to ensure that the area transportation system operates acceptably at the conclusion of each separate project. The ability of each separate project to operate on its own is referred to as “independent utility”. Also, mitigation measures needed in response to overall area impacts must be implemented with the phase in which the impacts occur and not deferred to a later phase of the ultimate planned transportation system.

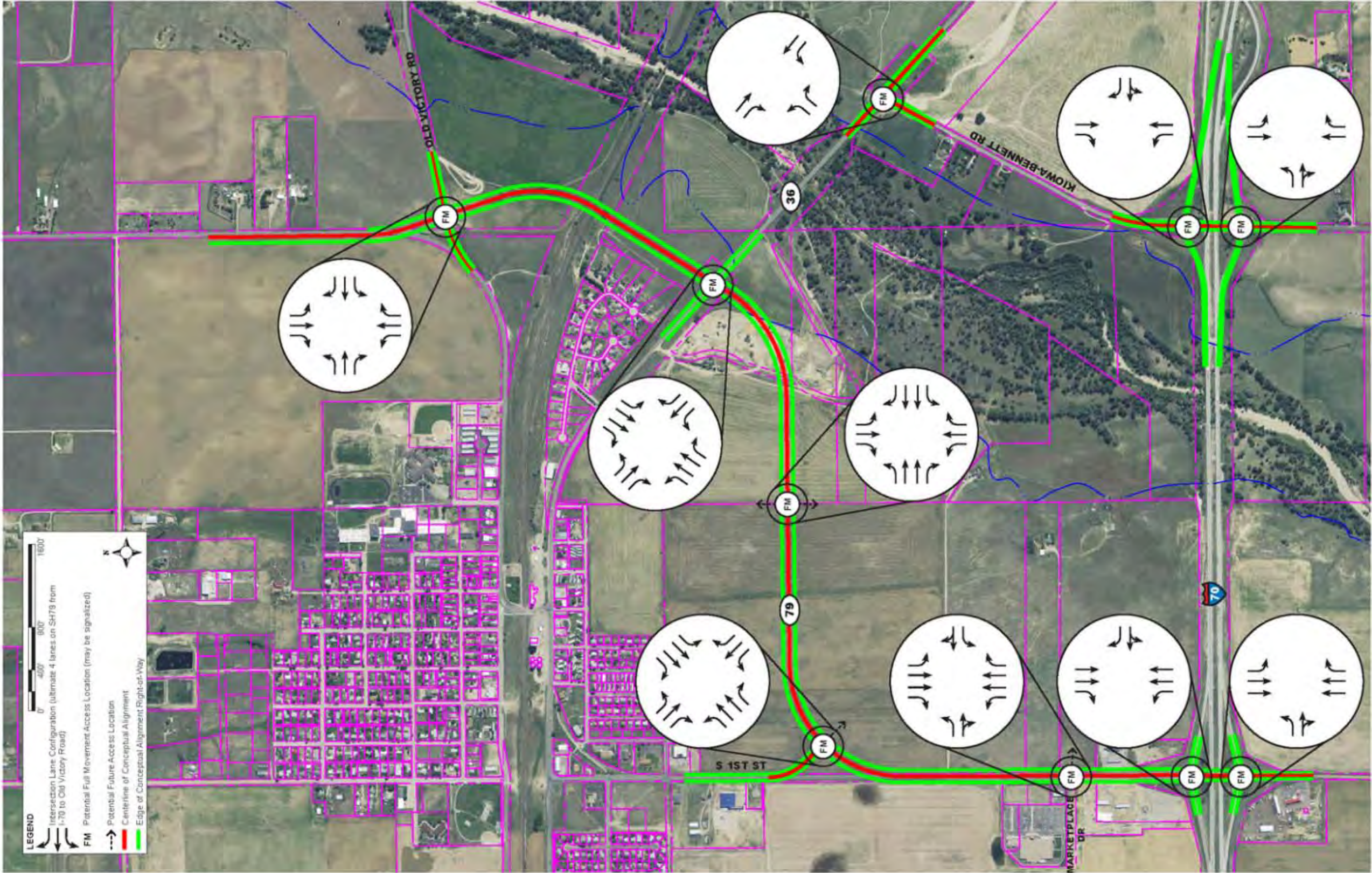
The separate projects should meet the following criteria:

- Independent Utility – Each project should have independent utility to the extent that the project provides a functional transportation system even in the absence of other elements of the Recommended Alternative.
- Elements of the Purpose and Need – Each separate project phase should contribute to meeting the Purpose and Need for the overall Recommended Alternative.
- Environmental Impacts – Each separate project phase should avoid the introduction of substantial additional environmental impacts that cannot be mitigated.
- Mitigation Directly Related to Impacts – Each separate project phase should include appropriate mitigation measures to match the environmental impacts of that phase.

Based on the results of the alternatives development and evaluation process, the PEL study recommendations identify the transportation improvements to carry forward into future project NEPA processes and further project development.

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Figure 12: Recommended Alternative



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## SH 79 Railroad Grade Separation

During the PEL study process, both an underpass and an overpass were considered for the grade-separated crossing of SH 79 and the UPRR tracks. The evaluation of the underpass and overpass options based on the conceptual design is summarized in **Table 3**. Based on this evaluation, the recommended option is an overpass of the UPRR due to the underpass having anticipated drainage and utility issues, higher cost, and more difficult railroad approval process to meet their design and construction requirements. An overpass was assumed for the conceptual cost estimates in this study. However, both the overpass and underpass options will be carried forward into the NEPA process for a final decision when there is more information on topographic survey, geotechnical conditions, and utility locations.

**Table 3. SH 79 Railroad Grade Separation Evaluation**

DESIGN EVALUATION CRITERIA	SH 79 UNDERPASS OF RAILROAD	SH 79 OVERPASS OF RAILROAD	RECOMMENDED OPTION
Drainage	Lowpoint is created that is near and possibly below the creek elevation. It may be possible to gravity drain to where the creek is lower elevation. Insufficient survey for final determination.	Typical section does not include curb and gutter. No anticipated drainage issues.	Overpass
Floodplain	Lowpoint likely, but design can provide berm to protect roadway. Roadway may be in floodplain, but needs confirmation with future NEPA evaluation.	Roadway is not within floodplain. Fill may be within floodplain, but is minimal and needs confirmation with future NEPA evaluation.	Overpass
Cost	Higher cost due to: <ul style="list-style-type: none"> <li>• Steel superstructure to reduce vertical clearance for drainage</li> <li>• Outfall pipe to drain lowpoint, including need to extend to creek</li> <li>• Railroad shoo-fly for construction</li> <li>• Impacted utilities not known</li> </ul>	Embankment fill required, but considered equal to excavation required for underpass option.  Lower cost for structure, drainage, and utilities.  Construction cost savings because railroad shoo-fly not required.	Overpass
Railroad Coordination	Shoo-fly to maintain operations is anticipated, which is not preferred by UPRR and will complicate approval process.	Less impact to UPRR operations and more acceptable to UPRR to facilitate approval process.	Overpass
Geometric Design	Geometry within reasonable design criteria.	Geometry within reasonable design criteria.	Equal
Aesthetics / Adjacent Property Impacts	SH 79 less visible to adjacent properties. Less impact to adjacent neighborhood viewshed of Kiowa Creek.	SH 79 will be about 30 feet above the existing railroad elevation, impacting adjacent neighborhood viewshed of Kiowa Creek.	Underpass
Utilities	Utilities not known, but likely underground utilities within the UPRR ROW would be impacted by excavation.	Utilities not known, but likely underground utilities within the UPRR ROW may be avoided.	Overpass

## SH 79 Access Control

Currently, CDOT defines the functional classification of SH 79 as a Major Collector between I-70 and 38th Avenue. For access control, that length of SH 79 is classified as Non Rural Arterial (NR-B). A NR-B roadway is intended to carry moderate to high traffic volumes at moderate travel speeds, and is appropriate for sections of regional highway passing through rural communities such as Bennett, so it is assumed the realigned highway would be designated NR-B. Following CDOT's *State Highway Access Code*, this roadway category allows one direct property access per parcel, but that access may be restricted to right-in, right-out only or a three-quarter movement access may be allowed if the left turns will provide operational benefits to an adjacent full movement intersection. In addition, the parcel access must not interfere with the operations or the auxiliary lanes of an adjacent intersection. Full movement intersections are allowed at one-half mile minimum spacing.

The approximate locations for future allowable full-movement and potentially signalized access along the Recommended Alternative for the realigned SH 79 corridor are illustrated in **Figure 12**. Traffic signals should only be constructed if warranted based on the criteria in the *Manual of Uniform Traffic Control Devices*. A roundabout may be considered at a full-movement access, if appropriate for the expected use (considering overall traffic volumes and truck and pedestrian/bicycle movements) and geometry of the intersection. Based on the traffic volume forecasts, conceptual layout, and *State Highway Access Code* requirements, full-movement and potentially signalized accesses may be allowed at the following locations along the realigned SH 79 corridor north of I-70:

- I-70 and SH 79 ramps
- SH 79 and Marketplace Drive
- SH 79 and 1st Avenue
- SH 79 and new roadway access midway between 1st Avenue and Colfax Avenue/US 36
- SH 79 and Colfax Avenue/US 36
- SH 79 and Old Victory Road

The Marketplace Drive intersection is currently a full-movement intersection on SH 79 with a traffic signal planned in the near future by the Town of Bennett. The existing intersections on the current SH 79 alignment north of the I-70 interchange may be changed if the land use changes or if there is an operational or safety issue.

The realigned SH 79 corridor traverses properties planned for new mixed use commercial development south of downtown Bennett. Specific information on the future parcels, land uses, and associated trip generation along the realigned corridor is not yet known. Between the full-movement potentially signalized accesses, only limited access, such as right-in, right-out and three-quarter movement intersections, will be granted if criteria outlined in the *State Highway Access Code* are met as determined by a development traffic study. The Town of Bennett is planning to complete an access control plan for SH 79 from I-70 to US 36 to reevaluate the existing accesses, as well as evaluate the potential for future accesses along the current highway alignment.

It is anticipated that no full movement access points other than those shown in this plan will be allowed. Therefore, it will be important for the new development surrounding the realigned SH 79 corridor to follow design guidelines that promote shared access to the regional highway with a logical and interconnected local street system, balanced with sidewalks and pathways, that creates better

orientation, mobility, and safety. This is consistent with the recommendations in the *Town of Bennett Downtown Planning Study*.

## I-70 and Kiowa-Bennett Road Interchange

The operational analyses completed for the Level 3 alternatives evaluation shows that the intersections and the ramp merge and diverge areas at the I-70 and Kiowa-Bennett Road interchange are expected to operate very well at LOS A or B during the peak hours, based on the travel demand forecasts developed for the study based on the DRCOG regional travel demand model. This indicates that the standard two-mile interchange spacing is not necessary to maintain acceptable freeway and ramp operations, and the freeway would not be negatively impacted with the one-mile interchange spacing between SH 79 and Kiowa-Bennett Road interchanges. However, approval from FHWA for the one-mile spacing will be required with further analysis during future NEPA processes. If approval is not granted, a different alternative from the PEL study may be advanced in the NEPA process.

The operations of the I-70 and Kiowa-Bennett Road interchange were analyzed further with the Recommended Alternative to identify potential impacts to the interstate system if future retail and commercial development adjacent to the interchange exceeds current plans. The ramp movements between the SH 79 and the Kiowa-Bennett Road ramps during the evening peak hour were determined to be the constraining factor for the interchange operations. The analysis shows that the Kiowa-Bennett Road eastbound off ramp could carry up to 1,700 vehicles per hour during the evening peak and the westbound ramp could carry up to 1,800 vehicles per hour. The traffic volume forecasts developed for the study show that each ramp will carry approximately 250 vehicles per hour during the peak hour in 2035, which allows for an increase of 1,450 to 1,550 vehicles in the peak hour. This shows there is substantial capacity for additional future growth utilizing the I-70 and Kiowa-Bennett Road interchange before operations become unacceptable on the freeway or ramp areas.

## Interchange Configuration Options

The Recommended Alternative includes a full diamond interchange at I-70 and Kiowa-Bennett Road. Although the traffic analysis completed for this PEL study shows that the diamond interchange configuration operates acceptably under 2035 conditions, the specific interchange configuration will be determined with further analysis during future NEPA processes.

At the second public meeting for the PEL study, several members of the public raised concern with the removal of the existing ramps between I-70 (east of Kiowa-Bennett Road) and Colfax Avenue/US 36, which was shown as required to provide a full diamond interchange at I-70 and Kiowa-Bennett Road. It would increase travel distance to/from I-70 for residents living along Colfax Avenue/US 36 east of the study area. Another concern was that if the direct ramps to Colfax Avenue/US 36 were removed, the Strasburg interchange, located four miles east of the study area, would be negatively impacted by traffic diversion.

The travel demand model for the Recommended Alternative shows a minor increase in average daily traffic on I-70 east of Kiowa-Bennett Road. Compared to the No Action alternative, there is an additional 400 vehicles per day on I-70 east of Kiowa-Bennett Road with the diamond ramp interchange at Kiowa-Bennett Road, which equates to a one percent increase. This increase can be attributed to the additional traffic accessing I-70 from Kiowa-Bennett Road via the new eastbound I-70 on ramp. Based on this information, the Recommended Alternative is not expected to create additional impacts at the Strasburg interchange, which is the next I-70 access to the east, approximately five miles east of Kiowa-Bennett Road.

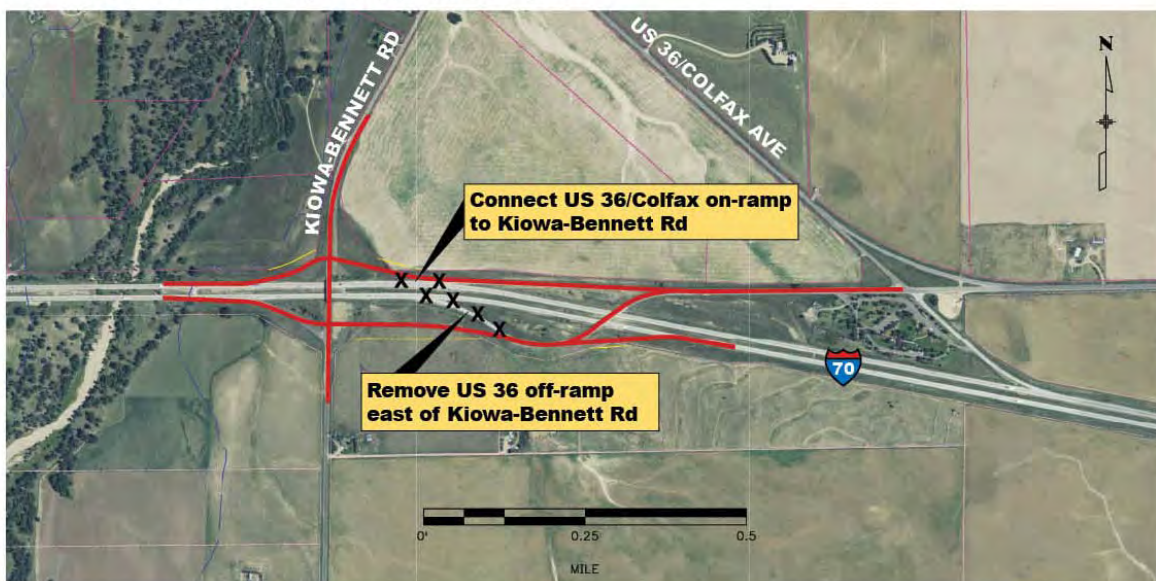
Based on the concerns expressed by the public, an additional I-70 and Kiowa-Bennett Road interchange configuration option was developed that keeps the existing ramps to and from Colfax Avenue/US 36. The base interchange option (Option A) and the modified option (Option B) are shown in **Figure 13**. Option B may require a relatively small amount of additional ROW in the northeast quadrant of the I-70 and Kiowa-Bennett Road interchange. The interchange configuration will be determined with further analysis during future NEPA processes and CDOT's *1601 Interchange Approval Process*, as described in the Next Steps section of this report.

**Figure 13: Kiowa-Bennett Road Interchange Configuration Options**

**Kiowa-Bennett Road Ramp Configuration – Option A**



**Kiowa-Bennett Road Ramp Configuration – Option B**



## Separate Project Phasing Opportunities

The opportunities to construct the overall Recommended Alternative transportation system with a series of separate projects were evaluated based on independent utility, potential environmental impacts, ROW impacts, and cost. It is anticipated that the Recommended Alternative could be divided into four separate project phases for additional project development and construction, and that each of those projects would individually provide regional mobility and connectivity benefits to the overall transportation system. The identified separate project phases are not required to be built in succession and they may be constructed in any order, except the SH 79 realignment between I-70 and Colfax Avenue/US 36, which should be built after the SH 79 railroad grade separation to provide connectivity for the state highway.

### SH 79 Interchange Improvements

The SH 79 interchange improvements, consisting of replacing the SH 79 bridge over I-70 with increased capacity to four lanes and improving the sight distance at the ramp intersections, can be implemented separately from the other phases of the Recommended Alternative. As a stand-alone project, this improvement would provide regional mobility benefits by improving traffic operations and reducing congestion at the interchange. The project would also address the safety concerns with sight distance at the I-70 off ramp intersections. This project is anticipated to cost approximately \$5 to \$10 million.

### SH 79 Realignment from I-70 to Colfax Avenue/US 36

The realignment of SH 79 from I-70 to Colfax Avenue/US 36 can be implemented as a stand-alone project, but it should be built after the SH 79 railroad grade separation to provide connectivity for the state highway. SH 79 would be improved to four lanes along its existing alignment just north of the I-70 interchange and a new four-lane roadway would be constructed to the east through the planned development area to an intersection at Colfax Avenue/US 36.

Construction of this portion of the Recommended Alternative would facilitate the planned development of the area south of downtown Bennett and, therefore, it is anticipated that this project will be funded at least partially by developers. If built by the Town or developers, CDOT standards for design, construction, and access control would need to be followed in order for this roadway to be designated as a state highway (SH 79).

If this phase is constructed before the SH 79 railroad grade separation, it is assumed that the state highway would remain along the current alignment through downtown Bennett and the new roadway would provide minimal benefit to the regional transportation system. If this new roadway is constructed after the railroad grade separation, it would provide regional mobility and connectivity benefits by reducing SH 79 travel time, reduce conflict and delay at the at-grade railroad crossing by diverting regional traffic from the downtown area, and address safety concerns by reducing heavy trucks and trucks carrying hazardous materials through downtown Bennett. This project phase is anticipated to cost approximately \$10 to \$15 million.

The Town is currently planning potential changes to the local street network within downtown Bennett with connections to this future regional highway alignment, like the new roadway access midway between 1st Avenue and Colfax Avenue/US 36, which would connect to a new at-grade railroad crossing at 8th Street. If local streets are constructed with connections to the new roadway area, there may be regional connectivity benefits that can be realized with construction of this project phase before the

railroad grade separation. The potential designation of the roadway as SH 79 would need to be coordinated with CDOT at that time.

### **SH 79 Railroad Grade Separation**

The construction of the SH 79 railroad grade separation, including the highway portion from Colfax Avenue/US 36 to Old Victory Road, can be implemented separately from the other phases of the Recommended Alternative. The railroad grade separation would provide regional mobility and connectivity benefits by reducing travel time for drivers traveling north-south through the study area. It would also reduce conflict and delay at the at-grade railroad crossing by diverting regional traffic from the downtown area and address safety concerns by reducing heavy trucks and trucks carrying hazardous materials through downtown Bennett, providing an alternate, reliable route across the railroad for emergency providers and improving the sight distance at Old Victory Road and SH 79. The railroad grade separation is anticipated to be the most costly portion of the Recommended Alternative with an estimated cost of \$10 to \$15 million.

### **I-70 and Kiowa-Bennett Road Interchange**

The Kiowa-Bennett Road interchange improvements, consisting of replacing the Kiowa-Bennett bridge over I-70 for additional width to accommodate turn lanes for new ramps to provide a full diamond interchange, can be implemented independently from the other phases of the Recommended Alternative. As a stand-alone project, the new Kiowa-Bennett Road interchange would improve regional mobility and connectivity by providing a direct access for drivers traveling from Kiowa-Bennett Road to I-70 and address safety concerns by providing emergency responders with a full movement interchange for the area south of I-70 and providing shoulder improvements along Kiowa-Bennett Road at the I-70 interchange. The Kiowa-Bennett Road interchange project is anticipated to cost approximately \$5 to \$10 million.

## AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Based on the scan of readily available environmental data and general field survey, the Recommended Alternative has been selected to minimize environmental impacts while meeting the Purpose and Need. Specific mitigation measures will be determined with future NEPA processes.

One of the goals of the PEL process is to identify potential impacts early in the planning process so that impacts can be avoided or minimized to the extent possible. The Recommended Alternative from this PEL study has been conceptually designed to minimize environmental impacts while meeting the Purpose and Need. Specific mitigation measures for remaining environmental impacts will be determined during subsequent NEPA evaluation processes during further project development.

Construction of the Recommended Alternative project elements may result in direct, indirect, and cumulative impacts to environmental resources depending on the type and location of the resource in proximity to the improvements. The resources that may be impacted by transportation improvements within the study area were evaluated in the *Final Corridor Conditions Assessment Report* (January 2013).

If a project from the Recommended Alternative receives Federal funding and/or involves a State or Federal facility, the results of the PEL study will be carried forward at that time into project development, additional environmental review (NEPA-level or similar state environmental review process), and design. If the project is solely funded with local funds, a NEPA review process would still be required if there is any “federal nexus”, such as a permit or an access need. For example, the project for the I-70 and Kiowa-Bennett Road interchange ramps will require access to I-70, a federally designated freeway. Also, any project that will require permits from Federal agencies, such as a Section 404 Permit (impacts to wetlands) and/or modifications to the floodplain requiring coordination with the Federal Emergency Management Agency, will initiate the NEPA process.

The environmental resources that were studied were selected based on the characteristics of the study area. The resources considered are generally consistent with NEPA, its implementing regulations, and with FHWA and CDOT guidelines. A summary of the overview findings is described below for the Recommended Alternative, previously described in this report.

### Air Quality

Air quality is generally assessed by comparing concentrations of air pollutants to National Ambient Air Quality Standards, which are set to protect human health and welfare. Air pollutants related to transportation that are of concern include carbon monoxide (CO), ozone, particulate matter with an aerodynamic diameter less than 10 microns (PM<sub>10</sub>), and Mobile Source Air Toxics (MSAT). MSATs are

hazardous air pollutants, and six priority MSATs have been identified by the Environmental Protection Agency as the priority transportation toxins to monitor.

It is assumed that before implementation, project phases will be part of a conforming RTP and TIP before moving forward. Therefore, when a NEPA study is conducted, qualitative air quality analyses will be necessary for ozone, CO, PM<sub>10</sub>, MSATs, and Greenhouse Gas emissions. As of December 2012, all areas in Colorado were in attainment of all National Ambient Air Quality Standards criteria pollutants except for ground level ozone. The Denver region was in an ozone nonattainment area for exceeding the 8-hour standard. The SH 79 corridor resides in Adams and Arapahoe counties, which are both in the nonattainment area. A qualitative conformity-level emissions burden analysis of volatile organic compounds and nitrogen oxide ozone precursors and other criteria pollutants will be required to compare emissions from the Recommended Alternative to the No Action. In addition, quantitative analyses may be necessary for CO and PM<sub>10</sub> pollutants. It does not appear that a quantitative MSAT analysis would be required, but this should be monitored for changing conditions and revised project concept and design.

The transportation conformity rule, promulgated through the Clean Air Act legislation, is the mechanism through which transportation projects are evaluated for air quality impacts in nonattainment and maintenance areas (40 CFR Parts 51.390 and 93). The conformity process has two levels - regional air quality conformity and project-level conformity. The regional conformity analysis is conducted for the long-range Regional Transportation Plan and the Transportation Improvement Program. Project-level conformity applies to transportation projects in air quality nonattainment and maintenance areas. It requires a review and possibly a quantitative "hotspot" analysis of CO and PM<sub>10</sub> emissions. To pass project-level conformity, the project cannot create new, increase the frequency of, or exacerbate the severity of air quality violations.

## Hazardous Materials

The hazardous materials review provided information about properties within the study area that pose a potential risk of environmental contamination from hazardous materials. Generally, if a facility identified in a database report was active with an event that had the potential to contaminate the study area, or groundwater flow could cause migration of the contaminants into the study area, then the facility was considered as a potential impact. Five potential hazardous materials sites could be impacted by the Recommended Alternative. Four of the sites are located near the I-70 and SH 79 interchange, including the Ace Hardware south of I-70, the Conoco gas station north of I-70, Love's Truck Stop north of I-70, and King Soopers north of I-70. The other site is located south of Old Victory Road, immediately east of the SH 79 grade separation. All of these sites would involve partial ROW acquisition.

The most fundamental management for hazardous materials is to avoid contaminated sites, which often is not feasible. Wherever possible, responsibilities for known hazardous materials issues at properties targeted for ROW should be resolved prior to acquisition. Site-specific Health and Safety Plans and Materials Management Plans will be developed to address contaminated soil and groundwater. Under the Recommended Alternative, it is not anticipated that buildings with hazardous materials will be demolished, so an Asbestos Abatement Plan and a Lead-Based Paint Assessment Plan are assumed to not be required. In the event septic systems and/or wells are disturbed during construction activities, proper closure in compliance with local regulations should be implemented.

A more in-depth hazardous materials assessment will be required during the NEPA phase. At a minimum, a CDOT Initial Site Assessment would be required. If the Initial Site Assessment identifies



hazardous materials concerns, then CDOT may require completion of an American Society for Testing and Materials-compliant Phase I Environmental Site Assessment (ESA), which would include more detailed review of historical sources, formal site visits, and agency contact. Based on the results of the Phase I ESA, further investigations (limited subsurface reports and Phase II ESAs), including the collection of surficial and subsurface soil samples and groundwater samples, may be required to delineate the horizontal and vertical extents of contamination in problem areas.

## Floodways and 100-year Floodplains

There are two Federal Emergency Management Agency-designated floodplains in the study area. Although no bridge crossings are proposed over the floodplains, some impacts to the floodplain could occur due to roadway encroachment under the Recommended Alternative. The Town of Bennett, Arapahoe County and Adams County are responsible for floodplain management within their jurisdiction over the Kiowa Creek floodplain. Both Arapahoe County and Adams County have local floodplain permitting requirements for development activities within the floodplain. Arapahoe County requires a Conditional Letter of Map Revision for all projects that impact the floodplain. Arapahoe County also requires a Letter of Map Revision to be completed and issued in order to revise the effective floodplain.

As part of the NEPA process, floodplain modeling will be required to assess future floodplain impacts and may require a Conditional Letter of Map Revision and Letter of Map Revision.

## Historic and Archeological Resources

### Historic Resources

The Colorado Historical Society/Office of Archeology and Historic Preservation performed a file search for historic resources in October 2012 for land sections encompassed by the study area. The file search was followed by an online search for more information about the identified cultural resources in order to determine the potential for effects to these properties. Three potentially eligible historic resources and one eligible resource were identified in the study area: the Mount View Cemetery/Bennett Cemetery, the Kiowa-Creek Bridge on Colfax Avenue/US 36, the Muegge House, and a portion of the Kansas Pacific Railroad. No impacts are expected to the Muegge House and the Kiowa Creek Bridge with the Recommended Alternative. The bridge has also been replaced in its entirety and is no longer eligible for listing on the National Register of Historic Places (NRHP).

The Mount View/Bennett Cemetery is adjacent to the proposed improvements of SH 79, but the proposed roadway alignment was shifted west to avoid direct property impacts to the cemetery. The cemetery was surveyed in 1982 and was recommended to be “not eligible” by the Colorado Historical Society. However, no official determination has been made by the State Historic Preservation Officer (SHPO). When the project reaches the NEPA process and final design, impacts to this resource should be avoided.

The entire section of the Kansas Pacific Railroad within the study area is potentially historic. SHPO identifies this portion of the railroad as “field eligible,” although no official determination has been made. Minimizing impacts to this resource should be discussed as part of ongoing efforts with the railroad during the NEPA phase.

### Archeological and Paleontological Resources

The file search revealed three prehistoric archaeological sites and one paleontological resource in the study area. Due to the sensitive nature of these resources, the sites cannot be disclosed. Once funding

has been identified, a registered archeologist and paleontologist will locate the resources and work with the project team to avoid, minimize and mitigate resource effects as part of future NEPA processes.

### Section 4(f) Resources

Section 4(f) of the Department of Transportation Act of 1966 stipulates that FHWA and other Department of Transportation agencies cannot approve the use of land from public and private historic sites unless there is no feasible and prudent alternative to the use of land, and the action includes all possible planning to minimize harm to the property resulting from use. Section 4(f) protects historic sites either listed on the NRHP, eligible to be listed on the NRHP, or of state and local significance. This includes the Mount View Cemetery/Bennett Cemetery, Muegge House, and a portion of the Kansas Pacific Railroad. All measures to avoid them will be documented as part of future NEPA processes.

### Mines

A file search of past and current mining operations revealed that two saleable mining sites occur in the study area, both privately owned by one individual. Saleable minerals include common mineral materials such as sand, gravel, stone, pumice, clay, and petrified wood. These sites are the Mitchell Pit and Mitchell Pit #2 located southeast of Bennett adjacent to Colfax Avenue/US 36. These sites are expected to be impacted by the SH 79 realignment with the Recommended Alternative.

The presence of existing mineral claims and leases could interfere with plans to construct a new roadway. As part of the pre-construction process, the project proponents will have to identify mineral claims and leases and either negotiate permission to use the land surface in these areas or re-locate the roadway to avoid existing claims and leases. Where access to mineral resources may be restricted, the proponents will provide compensation for damage, access rights, and easements with mine owners, claimants, and lease holders. If necessary, the proponents would provide mine operators with mine access during construction.

Air quality monitoring at the sand and gravel pits is recommended to determine the extent of Total Suspended Particulates (TSPs), which is a measure of all particulates emitted by a mine. An impact on air quality that could result from increased traffic or decreased congestion could combine cumulatively with potential air quality hazards presented by the mines. Similarly, an increase in impervious surfaces from roadway construction could combine cumulatively with possible groundwater contamination from the operations. On-site water availability during construction could also be an issue. These possibilities should be considered in the NEPA processes.

### Water Wells

Approximately 254 water wells were identified in the study area through a survey of GIS data from the Colorado Division of Water Resources. The Recommended Alternative may potentially impact up to five wells along the existing SH 79 alignment for the widening to four lanes. In addition, there are two wells near Old Victory Road and SH 79 that may be impacted. One well south of Old Victory Road is classified for irrigation, but all of the other potentially-impacted wells are classified as "other" usages, which means that they are likely used as monitoring wells.

Consideration of water well resources during the NEPA process will be necessary and will include a detailed analysis of the project design impacts to existing water wells, a plan for avoidance of existing wells during and after construction, and identification of the necessary permits for construction activities.

## Parks and Recreation Resources

### Section 4(f) Resources

In addition to historic sites, Section 4(f) of the Department of Transportation Act of 1966 stipulates that FHWA and other Department of Transportation agencies cannot approve the use of land from publicly owned parks, recreational areas, or wildlife and waterfowl refuges unless there is no feasible and prudent alternative to the use of land, and the action includes all possible planning to minimize harm to the property resulting from use.

Seven Section 4(f) non-historic resources currently exist within the study area, and 16 park and trail facilities are planned in the future within the identified study area. None of the existing Section 4(f) resources are expected to be impacted by the Recommended Alternative. Future planned trail systems will be coordinated during the NEPA process to ensure collaboration between the Recommended Alternative alignment and the area's future planned trail network.

### Section 6(f) Resources

The Land and Water Conservation Fund Act of 1965 established a Federal funding program to assist states in developing outdoor recreation sites. Section 6(f) of the act prohibits the conversion of property acquired or developed with these funds to a non-recreational purpose without the approval of the National Park Service and a one to one replacement of the land. A file search was conducted in November 2012 to determine whether Land and Water Conservation Fund money was used on any facilities within the study area. One facility was identified; the Bennett Swimming Pool located at Bennett Middle School, but it is not expected to be impacted by the Recommended Alternative.

## Threatened and Endangered Species

There are nine federally-listed species with potential to occur in or be impacted by projects in the study area. Three of the nine listed species are associated with sub-irrigated soils along stream and floodplains in riparian habitat. The habitat is marginal along Kiowa Creek, having poorly-defined riparian, shrub and herbaceous layers, and it is unlikely that these species would occur in the study area. Five species are listed because they occur downstream of the study area along the South Platte River, and could be impacted by projects that would result in water depletions.

The Recommended Alternative will not alter the flow of the water to the South Platte River; therefore, there will be no impact to these species. No suitable habitat occurs for the remaining one species in the study area so it was assumed that the species is not present. Therefore, there are anticipated to be no impacts to federally-listed species as part of the project.

Two areas of active black-tailed prairie dogs were observed in the study area, which are a vacant field northeast of the I-70 and SH 79 interchange, and vacant land just north of Truman Avenue on the north side of Bennett. Black-tailed prairie dogs may provide nesting habitat for burrowing owls, which are a state Species of Concern and also protected under the Migratory Bird Treaty Act (MBTA). The habitat northeast of the I-70 and SH 79 interchange may be impacted by the ROW acquisition of the Recommended Alternative. There is moderate potential for the northern leopard frog and the common garter snake, both State Species of Concern, to occur in the wetland habitat along Kiowa Creek, ditches, ponds, and stormwater detention basins within the study area.

Tree removal, vegetation grubbing, earth moving, and other construction activities have the potential to destroy nests of bird species protected under the MBTA. Nearby construction activities during the

breeding season may cause raptors to abandon nests. Similarly, winter construction activities may cause bald eagles to abandon roosting areas and the U.S. Fish and Wildlife Service (USFWS) has published guidelines to minimize disturbance. Due to potential raptor nesting habitats that could be located in the study area, careful construction practices will be necessary. Construction activities should schedule clearing and grubbing operations and work on structures to avoid impacting migratory birds protected by the MBTA. Pre-construction surveys for nesting birds should be completed and should follow the methods set forth by the USFWS, Colorado Parks and Wildlife and CDOT Section 240 Protection of Migratory Birds Standard Specification.

Swallows were not observed in the study area, but bridges and larger culverts in the study area could provide habitat. Nesting locations may change from year to year, and areas will need to be re-surveyed prior to construction. No bridge or box culvert work will take place if there are nesting birds present. Bridge or box culvert work that may disturb nesting birds will be completed before birds begin to nest or after the young have fledged (typically between April 1 and August 31). If work activities are planned between these dates, and if swallow nests are present, they will be removed before nesting begins and appropriate measures taken to assure no new nests are built prior to construction.

### Wetlands and Waters of the U.S.

Formal wetland delineations were not performed as part of the PEL study. Field maps of the study area were reviewed for potential wetlands and Waters of the U.S. and a site visit was performed. Several irrigation ditches and small stock ponds occur within the study area, but wetlands were generally not associated with the ditches. One potential wetland and Waters of the U.S. area that could be impacted by the Recommended Alternative is located north of the SH 79 interchange. Kiowa Creek has the potential to sustain fringe wetlands along its banks, although vegetation abutting the creek is marginal for wetland vegetation. The Recommended Alternative may impact Kiowa Creek near the Kiowa-Bennett interchange.

A Section 404 permit would likely be required from the U.S. Army Corps of Engineers (USACE) to authorize placement of dredge or fill material in any Waters of the U.S. including wetlands and open water features. Impacts under 0.5 acres can be permitted under existing Nationwide Permits. Impacts greater than 0.5 acres would require obtaining an Individual Permit. An Individual Permit includes a public notice and would trigger additional NEPA coordination with the USACE. Generally, mitigation would be required under either permit type for impacts exceeding 0.1 acre of jurisdictional Waters of the U.S., including wetlands and open water features. Prior to application for a permit, a wetland delineation survey would be conducted including a jurisdictional determination. This would include documented wetland boundaries and a determination of impacts.

CDOT regulates wetlands regardless of USACE jurisdiction. A CDOT Wetland Findings report may be required if permanent wetland impacts exceed 500 square feet or if temporary impacts exceed 1,000 square feet, regardless of whether USACE has jurisdiction.

### Noxious Weeds

The Recommended Alternative is located in a predominantly rural area dominated by agricultural properties, which provides numerous landscaped areas associated with adjacent commercial and residential properties. Weeds present within the project boundaries are typical of Colorado Front Range roadsides and disturbed areas, and are managed and controlled by a noxious weed management plan. No species from Category A of the State of Colorado noxious weed list were identified in the study area,

which are those designated for eradication and require prevention of seed production or development of reproductive propagules.

Preparation of an Integrated Noxious Weed Management Plan, which would include steps to control existing noxious weeds, would be required during the NEPA process. Weeds in the study area should be mapped during the growing season and an Integrated Weed Management Plan may be warranted to reduce the spread of noxious weeds within the study area.

## Noise

The FHWA has established activity categories based on various land uses to determine what is considered an acceptable noise level, known as Noise Abatement Criteria (NAC). No NAC Category A lands exist in the study area, which are those where serenity and quiet are of extraordinary significance. The majority of noise sensitive locations in the study area are residential, falling into NAC category B. Some noise sensitive land uses within the project limits fall into NAC category C, including parks, schools, churches, a cemetery, and a golf course. Areas of potential concern for noise impacts include the single family homes located near the proposed SH 79 realignment, and the neighborhood located southwest of the UPRR tracks, which is near the SH 79 grade separation. This neighborhood may experience additional impacts if a grade-separated overpass alternative is selected at the railroad tracks. Rural locations typically have low existing noise levels, so a new roadway would be more likely to cause a significant increase over existing noise levels.

A detailed noise study will be required during future NEPA processes. If the NAC will be exceeded after the construction of roadway improvements, mitigation needs to be considered and may be warranted depending on the land use category. For noise mitigation to be recommended as part of the project, it must be considered both “reasonable and feasible” based on CDOT criteria. During construction, a common-sense approach to controlling noise impacts of construction equipment and activities should be considered, such as limiting construction hours or avoiding routing heavy vehicles past residential neighborhoods. Best management practices can be incorporated to minimize the effect of construction on local residents and sensitive receivers while not affecting construction schedules.

## Community Impacts

### Neighborhood/Business Displacement

Ongoing conversations with property owners, businesses, and residences potentially affected will be a critical part of future project development. During the NEPA process, negative impacts to neighborhoods, businesses, and individual residences should be identified and avoided or minimized where possible. If property acquisition is required, acquisition proceedings will conform to the requirements set forth in the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and the Uniform Relocation Act Amendments of 1987 (as amended). Stakeholders will be provided with opportunities to provide input and express concerns related to the project at each stage of the project development process.

### Community Barrier

Existing and future land use data was reviewed for indicators of barrier effects due to existing transportation infrastructure, such as neighborhoods divided by transportation facilities, or isolation of a neighborhood from a community facility. Within the Town, the UPRR is a substantial transportation barrier. This railroad separates the southern portion of the Town from the schools and public services

available to the north of the railroad. The Recommended Alternative would provide a railroad grade separation as an alternate route for drivers and pedestrians east of the downtown area.

I-70 created a barrier to the property owners and residents in the community who wish to easily access areas north or south of the interstate. There are currently no pedestrian facilities to safely cross I-70 within the study area. The Recommended Alternative would enhance both of these crossing locations by providing pedestrian services and improved safety features at the interchanges.

Kiowa Creek acts as a natural barrier separating the properties on either side of it. However, property adjacent to the creek is rural and undeveloped, so it creates less of a barrier effect.

Ongoing coordination with local planners will be an essential part of future project development to ensure that changes resulting from the project are compatible with the intent of the local visions for the area. Ongoing conversations with property owners, businesses, and residences potentially affected will also be a critical part of future project development. A more detailed assessment of the businesses or residences potentially affected will be needed to identify avoidance options or mitigation measures to assist with concerns as a result of construction and ongoing operations.

### Prime and Unique Farmlands

To determine whether any prime or unique farmland soils of statewide or local importance are present in the study area, data were downloaded from the 2012 Natural Resources Conservation Service (NRCS) Soil Data Mart database. The NRCS identified several categories of soil types that are protected in the study area, which is a contributing factor in determining if farmland is considered prime or unique. The protected soil types exist along the alignment of the Recommended Alternative.

A detailed analysis of the project design impacts to existing prime and unique farmlands, identification of the necessary permits for construction activities, and an assessment of the need for groundwater monitoring before, during, and after the project will be required during the NEPA process. Ongoing coordination with local planners and NRCS representatives is also needed to ensure that changes resulting from any recommendations are compatible with environmental regulations and the local planning offices.

### Cumulative Impacts

During the NEPA process, additional analysis and agency coordination will need to be performed to determine cumulative impacts. Additional coordination with the resource agencies will be conducted to determine a study area for each resource. Resources that may be cumulatively impacted by future projects when combined with other past, present, and reasonably foreseeable future projects may include noise impacts to local residents, economic impacts, floodplain impacts, and direct/indirect loss of wetlands due to surface disturbance and increased impervious surface area. Wildlife habitat loss may also occur due to planned development.

# AGENCY AND PUBLIC COORDINATION

Understanding the ideas, perspectives, and needs of key stakeholders in the study area is critical to building broadly supported decisions and solutions. Throughout the PEL process, stakeholder involvement was emphasized and feedback was solicited from local agency and public partners at key decision points to foster acceptance of study recommendations.

## Agency Coordination

### TAC Meetings

The study included the formation of a TAC that met frequently with the project consultant team to provide technical input. The TAC included staff from the Town of Bennett, Adams and Arapahoe Counties, CDOT Environmental Programs Branch, CDOT Region 1, DRCOG, and FHWA.

The TAC Charter, signed by all TAC members, identified roles, responsibilities, and the decision-making process for the PEL study. The Charter established the concurrence points with meetings at key milestones within the study process and stated that concurrence for decisions presented at TAC meetings was provided with acceptance of the distributed meeting notes. The signed Charter is included in **Appendix F**.

The TAC was heavily involved in shaping the alternatives evaluation criteria and performance measures, as well as the alternatives that were considered. Members of the TAC kept their respective elected officials updated and brought elected official feedback to the project team.

Concurrence was provided at the following key milestones:

- Technical Team Charter
- Purpose and Need Statement
- Evaluation Criteria
- Initial Alternatives Developed
- Level 1 Alternatives Screening Results
- Level 2 Alternatives Screening Results
- Level 3 Alternatives Screening Results and Recommended Alternative
- Final Study Recommendations

The PEL process emphasized involvement from local agencies and the general public. Input from these stakeholders was used to guide project team decisions through a transparent process, resulting in a Recommended Alternative that best meets the needs of the local community.

Ten TAC meetings were held:

- August 31, 2012
- September 27, 2012
- October 25, 2012
- December 13, 2012
- January 17, 2013
- February 26, 2013
- March 21, 2013
- April 25, 2013
- June 20, 2013
- August 6, 2013

### Resource Agency Coordination

The study was coordinated with local, State and Federal resource agencies, including:

- Adams County Parks and Community Resources
- Arapahoe County Open Spaces
- Colorado Department of Public Health and Environment, Air Pollution Control Division
- Colorado Department of Public Health and Environment, Water Quality Control Division
- Colorado Parks and Wildlife
- Colorado SHPO
- Town of Bennett Parks and Recreation
- Urban Drainage and Flood Control District
- USACE
- U.S. Department of Agriculture, Natural Resource Conservation Service
- U.S. Environmental Protection Agency
- USFWS

Information was distributed to representatives at these resource agencies at two points during the study. Early in the study a letter and study area map were mailed as an introduction to this PEL process and request for input on the existing conditions and concerns within the study area. A second letter was mailed serving as an update on the study following Level 3 alternatives screening. A graphic of the Recommended Alternative was enclosed for review to identify potential resource impacts and next steps required for future NEPA processes and project development. A summary of the resource agency coordination and input is included in **Appendix F**.

### Other Agency Coordination

Small group meetings were held with individuals representing stakeholders anticipated to be potentially affected by the potential improvements to identify likely impacts and help shape the study recommendations. Presentations to inform stakeholders and gather feedback were also made. These meetings and presentations occurred as follows:

- Arapahoe County Open Spaces Department – January 8, 2013 and April 11, 2013
- Bennett Fire District – February 26, 2013 and August 5, 2013
- Bennett School District – February 26, 2013 and August 5, 2013
- UPRR – April 11, 2013 and July 22, 2013
- I-70 Corridor Regional Economic Advancement Partnership – September 12, 2013



## Public Participation

In an effort to gain as much community input as possible, public participation was emphasized throughout the study process. It was important that all participants, including potential users of the study corridors and roadways in the vicinity, clearly understand each alternative. The study website and graphics illustrated proposed alternatives, operational characteristics, impacts, and cost estimates.

### General Public Meetings

This study held two public meetings in open house format. The first meeting, held on November 15, 2012, served to introduce the PEL study and to discuss study area conditions and the need for improvements, as well as past planning efforts. At the second meeting, held on May 16, 2012, alternatives and Level 1 and 2 evaluation results were presented for comment. Each meeting was attended by over 50 individuals.

### Information Distribution

The study utilized several methods of advertising and outreach. A postcard was distributed via U.S. Postal Service or email to nearly 1,700 property owners, tenants and other interested individuals prior to each public meeting. Each public meeting was also preceded by a news release, which was sent to local media outlets as well as local jurisdictions' Public Information Officers for inclusion in their community bulletins. Prior to each meeting, an advertisement was placed in the *I-70 Scout* and the *Eastern Colorado News* newspapers, reaching an estimated 6,700 mailboxes along the I-70 corridor communities between Watkins and Agate.

A final study update to the project mailing list is planned at the end of the PEL study to describe the recommended improvements, facilitate final public comment on study recommendations, and inform the public regarding next steps towards project development and implementation.

### Public Comments

Input was solicited at the public meetings and community members were also able to submit comments via the PEL study website throughout the course of the study. Public meeting graphics and summaries of comments received were subsequently posted on the study webpage, [www.sh79pel.com](http://www.sh79pel.com).

Common public comments and responses are included in **Table 4**. Comments received were shared with project technical staff and the TAC representatives for consideration during the alternatives development, evaluation, and recommendations process. Summaries of comments received are included in **Appendix G**.

**Table 4. Public Comment Themes and Responses**

PUBLIC COMMENT	METHOD OF ADDRESSING COMMENT
Curves on new road alignments need to be safe and have good sight distance. Safety issues exist with existing turns on SH 79, and they cause problems for large trucks.	CDOT and County roadway standards were used when designing new roadway alignments considering large trucks as design vehicles.
A full interchange at Kiowa-Bennett Road and I-70 is needed.	Multiple alternatives were developed that included an interchange providing all movements. Stakeholder and public input was considered during Level 3 screening and used as an evaluation criterion to determine the study's Recommended Alternative, which does include a full interchange at this location.
Avoid private property impacts and acquisition, including residential property with homes and farmland.	During alternatives development, property impacts were minimized where possible through shifting the roadway alignments. Property impacts were considered in both Level 2 and Level 3 alternatives evaluation. The amount of ROW required as well as types of property impacts were documented and used as evaluation criteria to determine the study's Recommended Alternative.
Proposed new alignments will disturb wildlife, especially around the Kiowa Creek area.	Environmental impacts were considered in both Level 2 and Level 3 alternatives evaluation. Potential impacts to sensitive biological habitat were documented and used as evaluation criteria to determine the study's Recommended Alternative.
Do not impact Kiowa Creek North Open Space.	<p>Some alternatives were developed that did not impact Open Space. Stakeholder coordination meetings were held with Arapahoe County Open Spaces staff to gather feedback on alternatives and discuss ways to minimize potential impacts of alternatives encroaching on Open Space.</p> <p>Environmental impacts were considered in both Level 2 and Level 3 alternatives evaluation. Potential impacts to parks and recreational areas were documented and used as an evaluation criterion to determine the study's Recommended Alternative.</p>
Increased noise from improvements will impact residents.	Potentially impacted areas for noise were considered in the Level 2 alternatives evaluation. Specific mitigation measures for noise impacts will be determined during subsequent NEPA environmental evaluation processes, and if found reasonable and feasible, required mitigation would be included in final plans for incorporation into the project design.
A grade separated crossing of the UPRR and SH 79 will have visual impacts for Cordella neighborhood residents.	Both an underpass and overpass were evaluated for this grade separated crossing. Visual impacts will be investigated for potential mitigation during subsequent NEPA environmental evaluation processes.
Alternative 4 would cause out of direction travel.	Alternative 4 was eliminated in Level 3 alternatives evaluation.
The elimination of the existing off ramp from eastbound I-70 to Colfax Avenue /US 36 ramps near the Kiowa-Bennett Road/ I-70 interchange will cause problems for residents east of Bennett.	An additional option for this interchange configuration was developed following the second public meeting in response to these concerns, and documented in the final study report. Option B would keep the existing ramps between I-70 and Colfax Avenue/US 36. A final decision of the configuration will be determined during the NEPA process.

## NEXT STEPS

The PEL process is intended to provide the framework for the long-term implementation of the Recommended Alternative transportation system improvements as funding is available and to be used as a resource for future NEPA documentation.

FHWA has developed a standard questionnaire to summarize the planning process and ease the transition from planning to a NEPA analysis. That questionnaire, included in **Appendix H**, summarizes the information that has been analyzed with the PEL study and identifies the issues a future project team should be aware of to efficiently move forward in future NEPA processes.

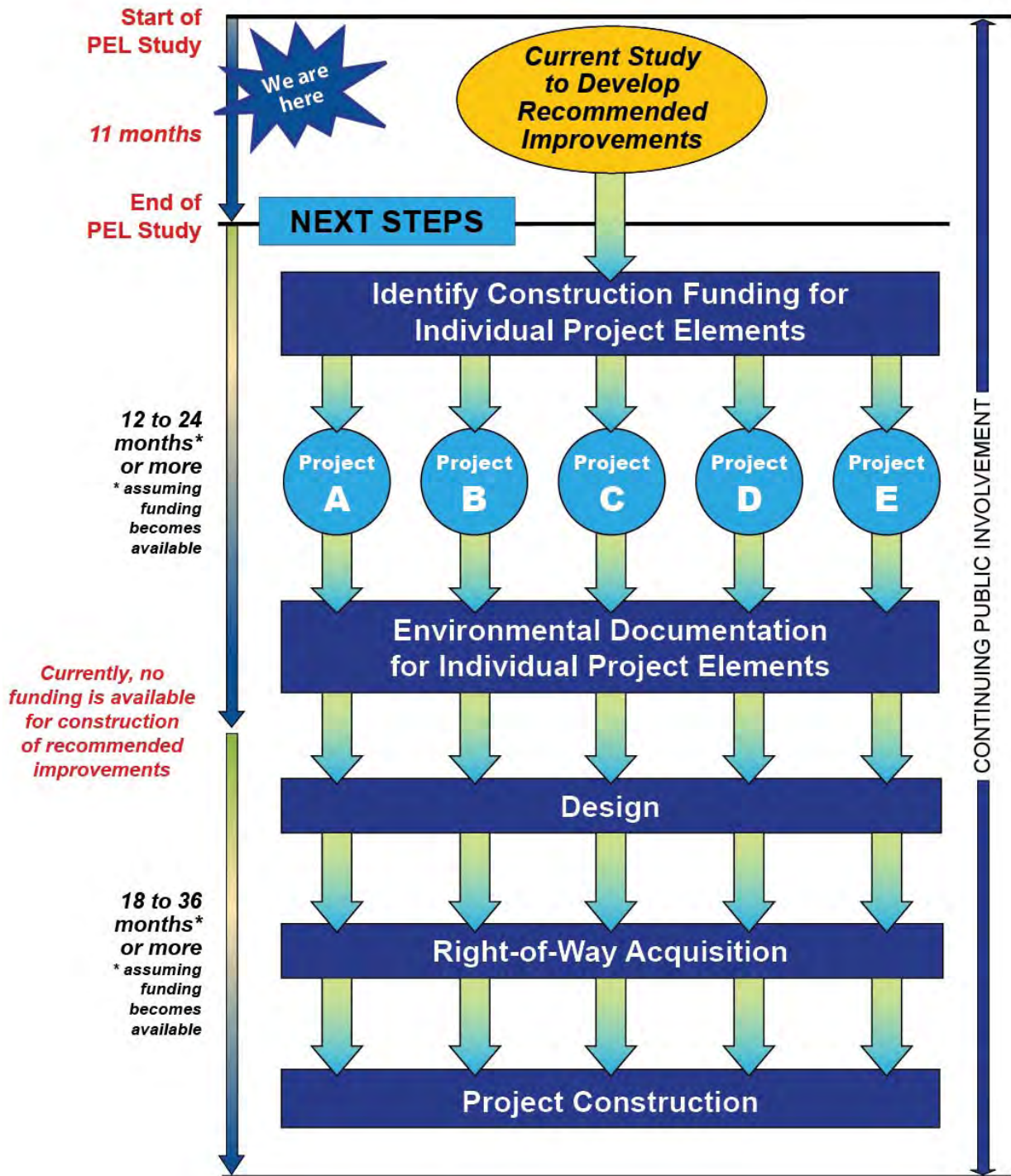
The next steps in the project development process are outlined and illustrated in **Figure 14**. Separate projects may be implemented if funding is available. These steps include:

- Secure necessary funding to move projects forward into NEPA process
- Complete NEPA analyses of Recommended Alternative or separate project phases
- Complete design
- Obtain ROW
- Complete Intergovernmental Agreement with local agencies regarding maintenance
- Complete construction

These steps will be coordinated with FHWA to ensure consistency with the NEPA process for each phase of the Recommended Alternative as a separate project. It is anticipated that each project could move forward with individual NEPA processes with this PEL study providing the documentation of the intent to implement the full corridor area improvements over time, as funding becomes available.

Individual projects may be initiated as funding becomes available for elements of the Recommended Alternative transportation system. These projects may move forward with individual NEPA processes with this PEL study providing the documentation of the intent to implement the full improvements over time.

Figure 14: Overall Project Process



## Project-Level Steps

It is anticipated that funding for the entire Recommended Alternative improvements will not be available all together. If smaller components of the project are implemented individually, each separate project will likely need to develop a Purpose and Need statement, which is expected to be based off the Purpose and Need developed with the PEL study, but focused on the needs of the smaller project area. Independent utility, including logical termini, will need to be demonstrated for each project with the documentation of the PEL study illustrating the overall framework for the long-term implementation of the Recommended Alternative.

The anticipated project-level steps for the separate project phases are described below and summarized in **Table 5**.

### SH 79 Interchange Improvements

The Purpose and Need for the SH 79 interchange improvements would focus on improving regional mobility and addressing safety concerns. As an interstate interchange, this project would move into the NEPA process concurrently with CDOT's *1601 Interchange Approval Process*. Additional traffic analysis will be required for the area surrounding the interchange, as well as the adjacent interchanges on I-70, to identify the benefits to congestion, safety, and overall mobility for the local and regional transportation system. The type of NEPA study required will be dependent on the types and levels of environmental impacts.

The existing interchange provides full access to I-70 and no major changes are proposed to the ramp configuration, lengths, or merge/diverge areas on the freeway, so it is anticipated that a Minor Interchange Modification Request (MIMR) will be required for FHWA approval. This project may require a relatively small amount of ROW acquisition and would have potential environmental impacts to hazardous materials and water wells near SH 79, threatened and endangered species habitat, and prime and unique farmlands.

### SH 79 Realignment from I-70 to Colfax Avenue/US 36

The Purpose and Need for the SH 79 realignment would focus on improving regional mobility and connectivity and addressing safety concerns. It is anticipated that this project phase would be funded as part of the planned development south of downtown Bennett. The NEPA requirements will be dependent on the types and levels of environmental impacts. This project phase will require ROW acquisition and coordination with a future developer. Potential environmental impacts are hazardous materials and water wells near SH 79, floodplains, potential Waters of the US, threatened and endangered species habitat, mines, noise impacts to single family homes, and prime and unique farmlands.

### SH 79 Railroad Grade Separation

The Purpose and Need for the SH 79 railroad grade separation would focus on improving regional mobility and connectivity, reducing conflict and delay at the at-grade railroad crossing, and addressing safety concerns. One of the first steps of this separate project will be to perform a detailed survey near the location of the railroad grade separation. The survey will provide more information needed to define an overpass or underpass with the potential impacts and design constraints. An additional traffic study will need to be performed during preliminary design to identify the signing and striping to modify the truck route so it carries traffic along SH 79 and the grade separation rather than through downtown

Bennett. The type of NEPA study required will be dependent on the types and levels of environmental impacts.

This project will require ROW acquisition and continued coordination with the railroad and other property owners. Potential environmental impacts are hazardous materials sites near Old Victory Road, threatened and endangered species, the railroad and cemetery as a historic resource, water wells, noise impacts for homes near the grade separation, and prime and unique farmland impacts.

### ***UPRR Coordination***

On-going coordination with the UPRR for the grade separation will be required. UPRR requires an initial meeting with the Manager of Industry & Public Projects to review the scope of the project and the project submittal process. This typically occurs during preliminary design, which can be concurrent with the NEPA process. Because it may take some time to initiate and complete NEPA for the grade separation, due to funding constraints, the initial meeting with UPRR may be scheduled about six months prior to the completion of NEPA. UPRR's *Grade Separation Guidelines* define the project submittal process from inception through the Construction and Maintenance Agreement process.

Initially, CDOT must write a Preliminary Engineering letter to UPRR advising them of the project and authorizing a fee (typically between \$15,000 to \$20,000) for UPRR's project setup and plan review process by outside consultants. The Preliminary Engineering letter authorizing the project review costs will be included in the Detail of Estimate received from UPRR for any railroad work, which in turn will become part of the Construction and Maintenance Agreement. UPRR does not bill for the Preliminary Engineering costs until they have the fully executed Construction and Maintenance Agreement.

The real estate review process should be initiated by CDOT at approximately the same time as the initial meeting with UPRR to determine the necessary easement for SH 79. CDOT will have to provide a metes and bounds description and make an offer based on fair market value for the proposed easement area once it is determined. The final easement configuration will be included in the Construction and Maintenance Agreement along with the final easement cost to be paid to UPRR by CDOT.

The *Grade Separation Guidelines* require specific horizontal and vertical clearances for the existing track and for a future track. UPRR typically requires at a minimum room under the grade separation for at least one additional future track and a maintenance of way road to access their infrastructure. UPRR prefers that any grade separation clear span their ROW, so as not to impact future UPRR capacity improvement projects. However, the ROW at the proposed grade separation location is relatively wide (approximately 400 feet), so UPRR representatives indicated that they would expect a 100-foot minimum clear span with approach spans. One of the first coordination steps with the railroad will be for the design team to justify the span length inside the UPRR ROW to obtain approval by UPRR.

### **I-70 and Kiowa-Bennett Road Interchange**

The Purpose and Need for the I-70 and Kiowa-Bennett Road interchange would focus on improving regional mobility and connectivity and addressing safety concerns. As an interstate interchange, this project would move into the NEPA process concurrently with CDOT's *1601 Interchange Approval Process*. Additional traffic analysis will be required for the area surrounding the interchange, as well as the adjacent interchanges on I-70, to identify the benefits to congestion, safety, and overall mobility for the local and regional transportation system. The type of NEPA study required will be dependent on the types and levels of environmental impacts.

The Recommended Alternative includes new ramps accessing I-70, so a full Interstate Access Request (IAR) will be required for FHWA approval. This project may require a relatively small amount of ROW acquisition and would have potential impacts to floodplains, wetlands and Waters of the US, and threatened and endangered species.

**Table 5: Separate Project Phases – Next Steps**

	SH 79 INTERCHANGE	SH 79 REALIGNMENT	SH 79 RAILROAD GRADE SEPARATION	KIOWA-BENNETT ROAD INTERCHANGE
<b>Purpose and Need Elements</b>	<ul style="list-style-type: none"> <li>Improves regional mobility</li> <li>Addresses safety concerns</li> </ul>	<ul style="list-style-type: none"> <li>Improves regional mobility and connectivity</li> <li>Reduces conflict and delay at the at-grade railroad crossing</li> <li>Addresses safety concerns</li> </ul>	<ul style="list-style-type: none"> <li>Improves regional mobility and connectivity</li> <li>Reduces conflict and delay at the at-grade railroad crossing</li> <li>Addresses safety concerns</li> </ul>	<ul style="list-style-type: none"> <li>Improves regional mobility and connectivity</li> <li>Addresses safety concerns</li> </ul>
<b>Independent Utility Considerations</b>	Project provides mobility and safety benefits independent of the completion of other project elements	Project only provides regional mobility and safety benefits if constructed after SH 79 railroad grade separation	Project provides mobility and safety benefits independent of the completion of other project elements	Project provides mobility and safety benefits independent of the completion of other project elements
<b>Potential Environmental Resources Affected</b>	<ul style="list-style-type: none"> <li>Hazardous Materials</li> <li>Threatened &amp; Endangered Species</li> <li>Water Wells</li> <li>Prime/unique farmland</li> </ul>	<ul style="list-style-type: none"> <li>Noise</li> <li>Hazardous Materials</li> <li>Threatened &amp; Endangered Species</li> <li>Waters of the US</li> <li>Floodplains</li> <li>Water Wells</li> <li>Prime/unique farmland</li> <li>Mines</li> </ul>	<ul style="list-style-type: none"> <li>Noise</li> <li>Hazardous Materials</li> <li>Threatened &amp; Endangered Species</li> <li>Historic Resources</li> <li>Water Wells</li> <li>Prime/unique farmland</li> </ul>	<ul style="list-style-type: none"> <li>Threatened &amp; Endangered Species</li> <li>Wetlands and Waters of the US</li> <li>Floodplains</li> </ul>
<b>Anticipated Process / Requirements</b>	<ul style="list-style-type: none"> <li>NEPA</li> <li>1601 Process – Interchange Feasibility (CDOT)</li> <li>MIMR (FHWA)</li> <li>Survey &amp; Design</li> <li>ROW acquisition</li> </ul>	<ul style="list-style-type: none"> <li>NEPA</li> <li>Survey &amp; Design</li> <li>ROW acquisition</li> </ul>	<ul style="list-style-type: none"> <li>NEPA</li> <li>Railroad approval process (UPRR)</li> <li>Survey &amp; Design</li> <li>ROW acquisition</li> </ul>	<ul style="list-style-type: none"> <li>NEPA</li> <li>1601 Process – Interchange Feasibility (CDOT)</li> <li>IAR (FHWA)</li> <li>Survey &amp; Design</li> <li>ROW acquisition</li> </ul>
<b>Conceptual Cost Estimate</b>	\$5 - \$10 Million	\$10 - \$15 Million	\$10 - \$15 Million	\$5 - \$10 Million



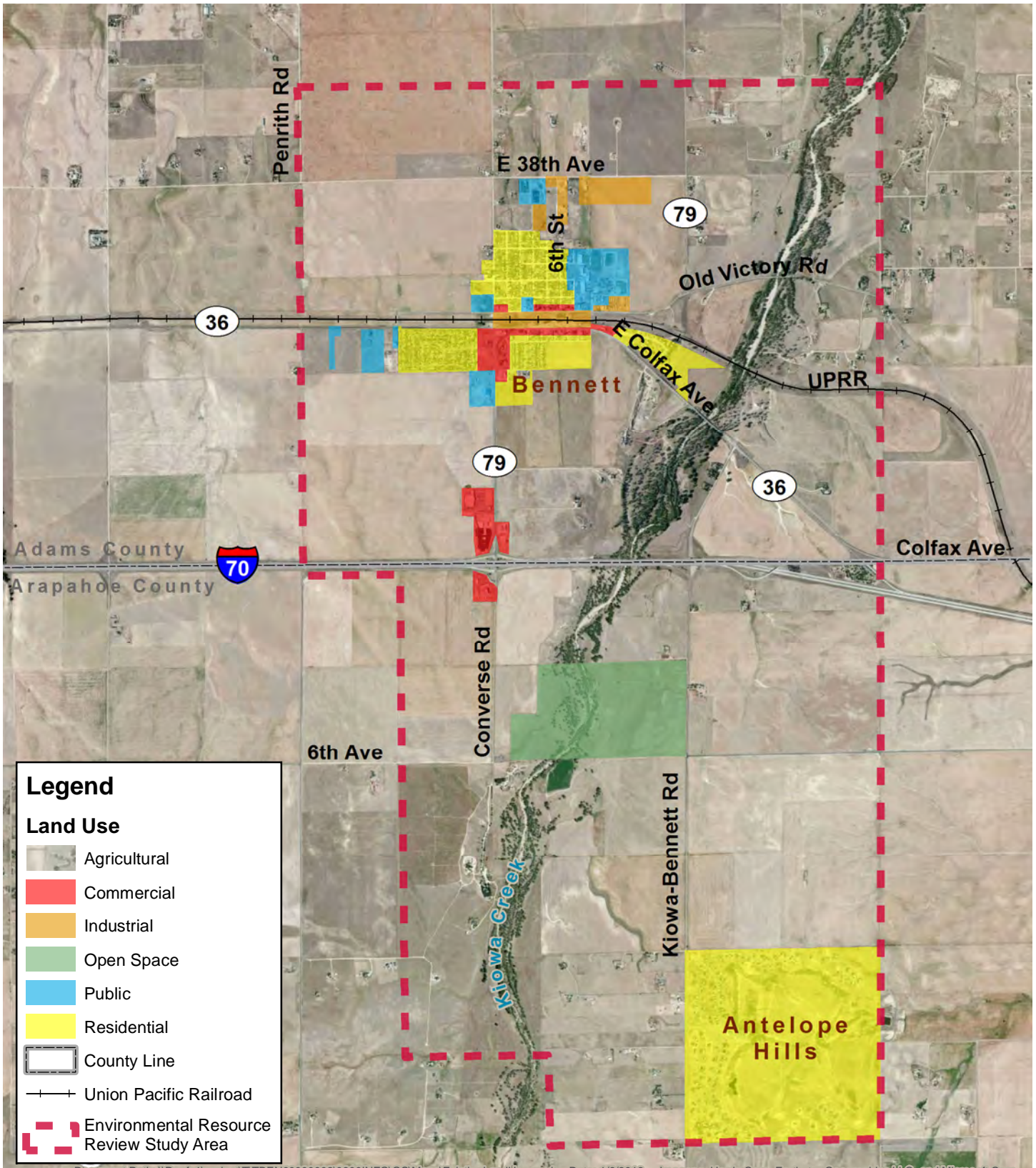




# APPENDIX A

## LAND USE AND TRAFFIC



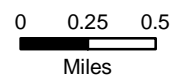


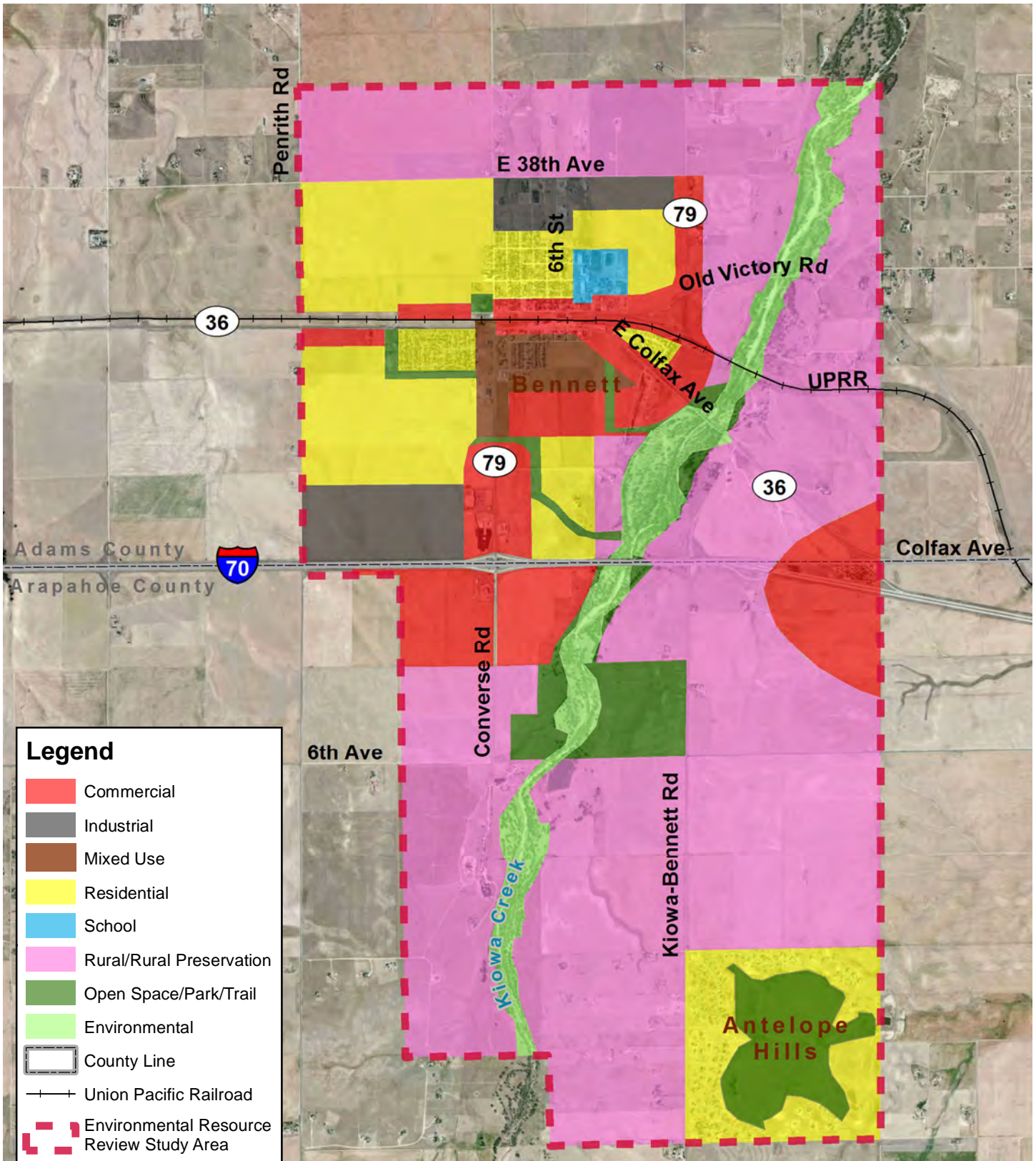
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**Land Use**

- Agricultural
- Commercial
- Industrial
- Open Space
- Public
- Residential
- County Line
- Union Pacific Railroad
- Environmental Resource Review Study Area

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**Legend**

- Commercial
- Industrial
- Mixed Use
- Residential
- School
- Rural/Rural Preservation
- Open Space/Park/Trail
- Environmental
- County Line
- Union Pacific Railroad
- Environmental Resource Review Study Area

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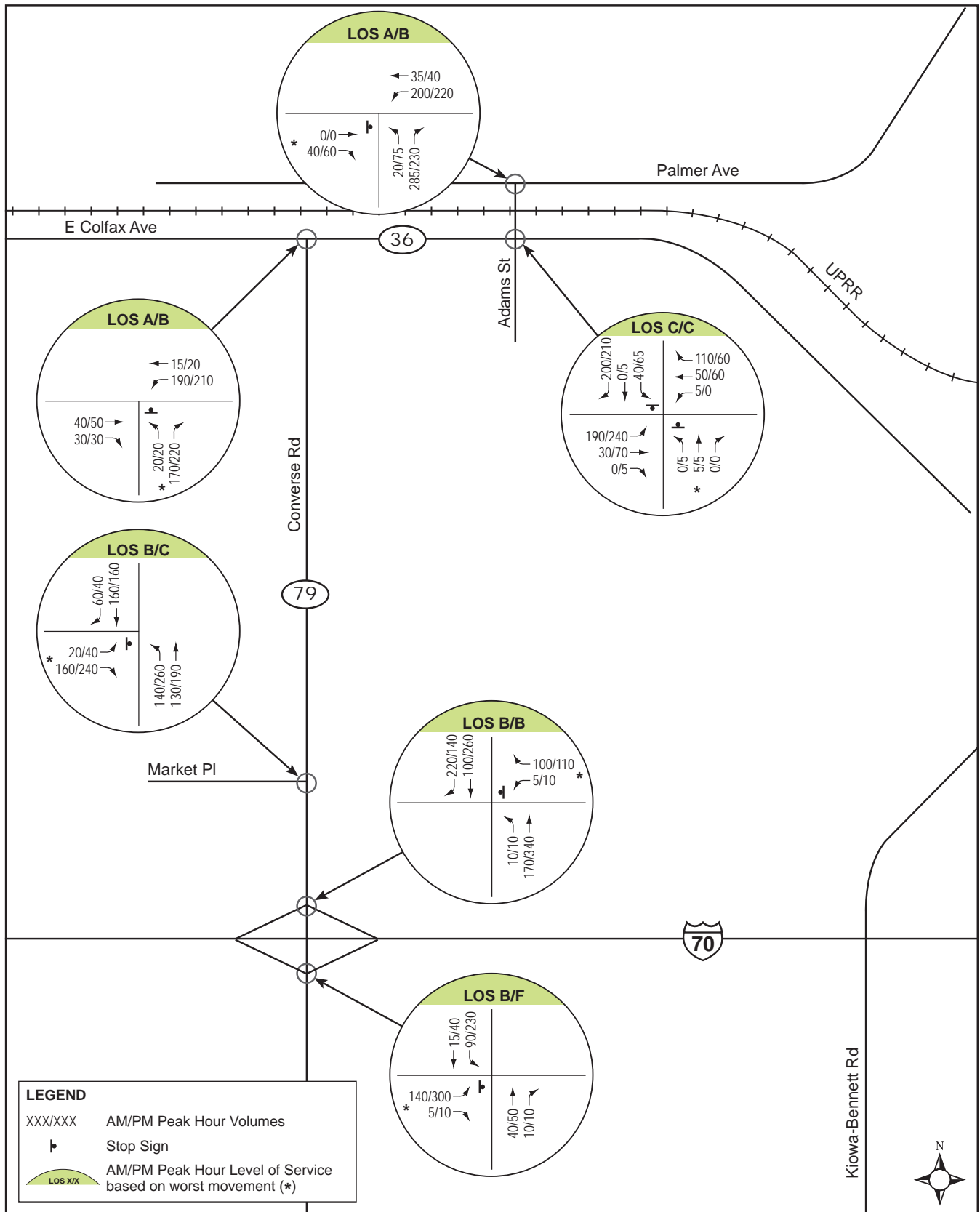
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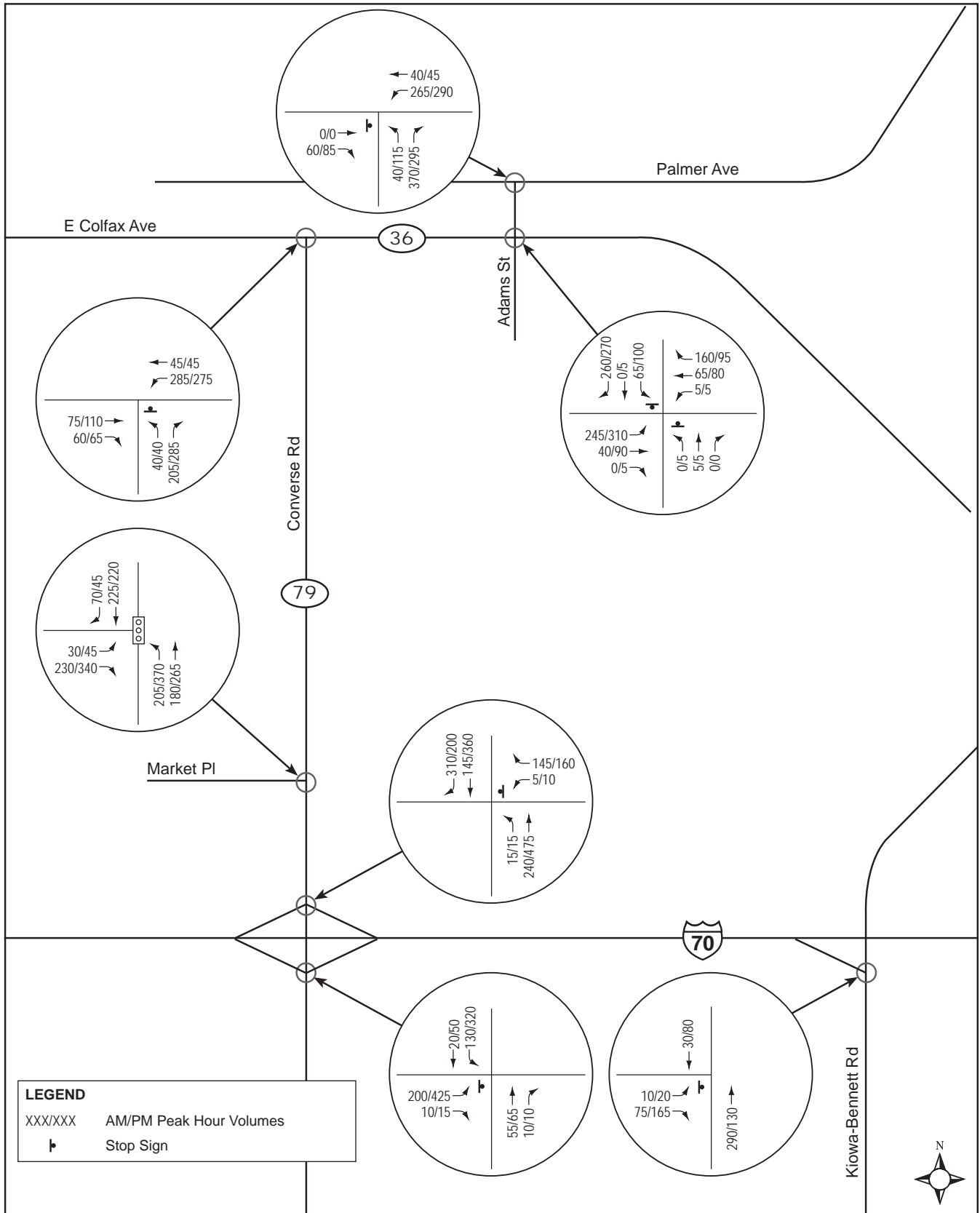
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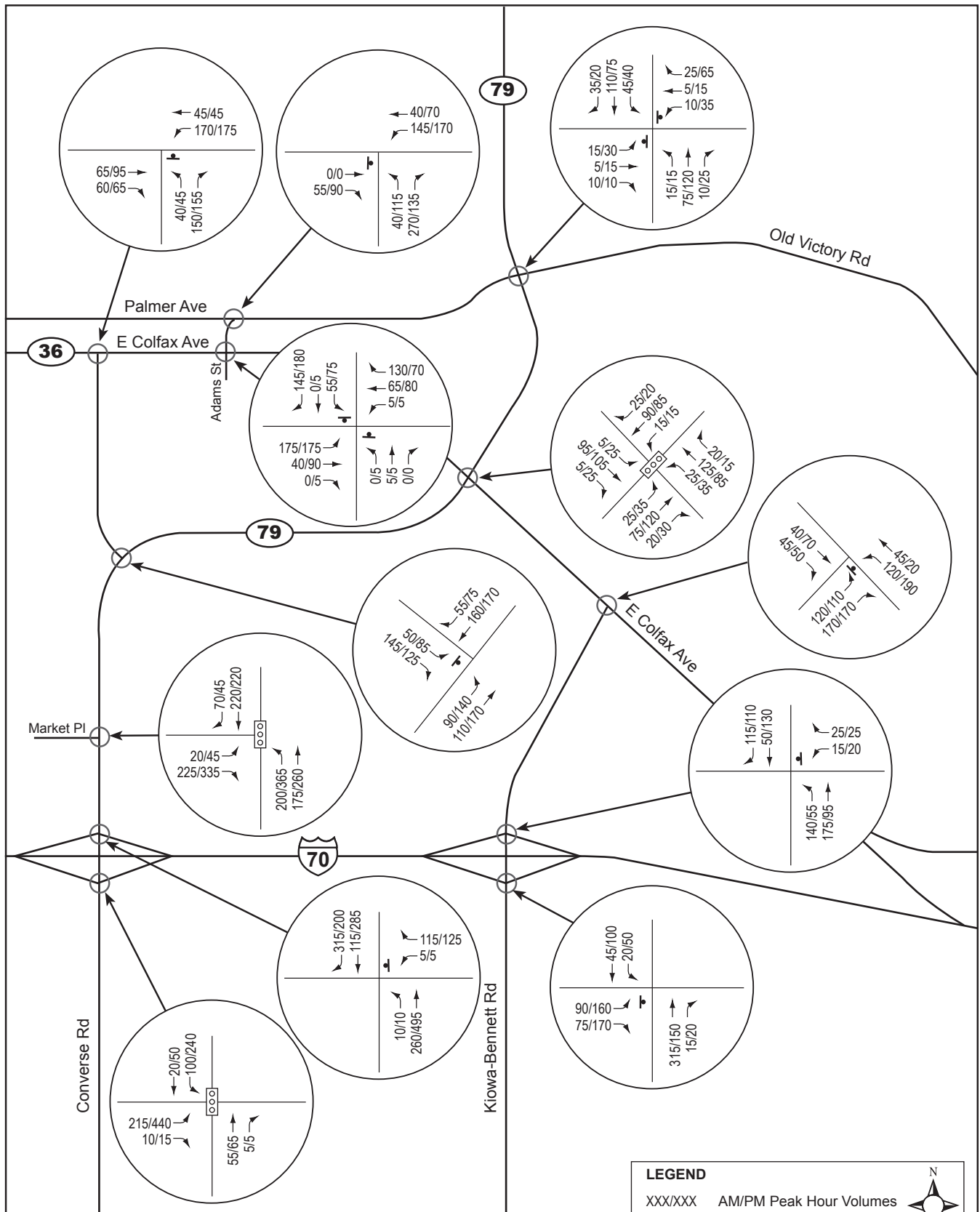


**SH 79 Summary of Existing, No Action, and Alternative 1 Intersection Levels of Service**

INTERSECTION	EXISTING LOS		2035 No ACTION LOS		2035 ALTERNATIVE 1 LOS	
	AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK
Palmer Ave and Adams Street	A	B	B	C	A	A
Adams Street and Colfax/US 36	C	C	C	F	B	C
SH 79/1st St and Colfax/US 36	A	B	C	C	B	B
SH 79 and Marketplace Dr- Unsignalized	B	C	E	E	C	F
SH 79 and Marketplace Dr- Signalized	N/A	N/A	A	A	A	C
SH 79 and I-70 WB ramps	B	B	B	C	B	B
SH 79 and I-70 EB ramps- Unsignalized	B	F	C	F	A	F
SH 79 and I-70 EB ramps- Signalized	N/A	N/A	B	B	B	B
Kiowa-Bennett and I-70 WB ramps	N/A	N/A	N/A	N/A	B	B
Kiowa-Bennett and I-70 EB ramps	A	A	A	A	B	B
SH 79 and Mainstreet (realignment)	N/A	N/A	N/A	N/A	B	B
SH 79 and Colfax Ave (realignment) - Unsignalized	N/A	N/A	N/A	N/A	B	B
SH 79 and Colfax Ave (realignment) - Signalized	N/A	N/A	N/A	N/A	B	B
SH 79 and Old Victory Rd (realignment)	N/A	N/A	N/A	N/A	B	B







**LEGEND**

XXX/XXX AM/PM Peak Hour Volumes

⬮ Stop Sign

⬮ Traffic Signal

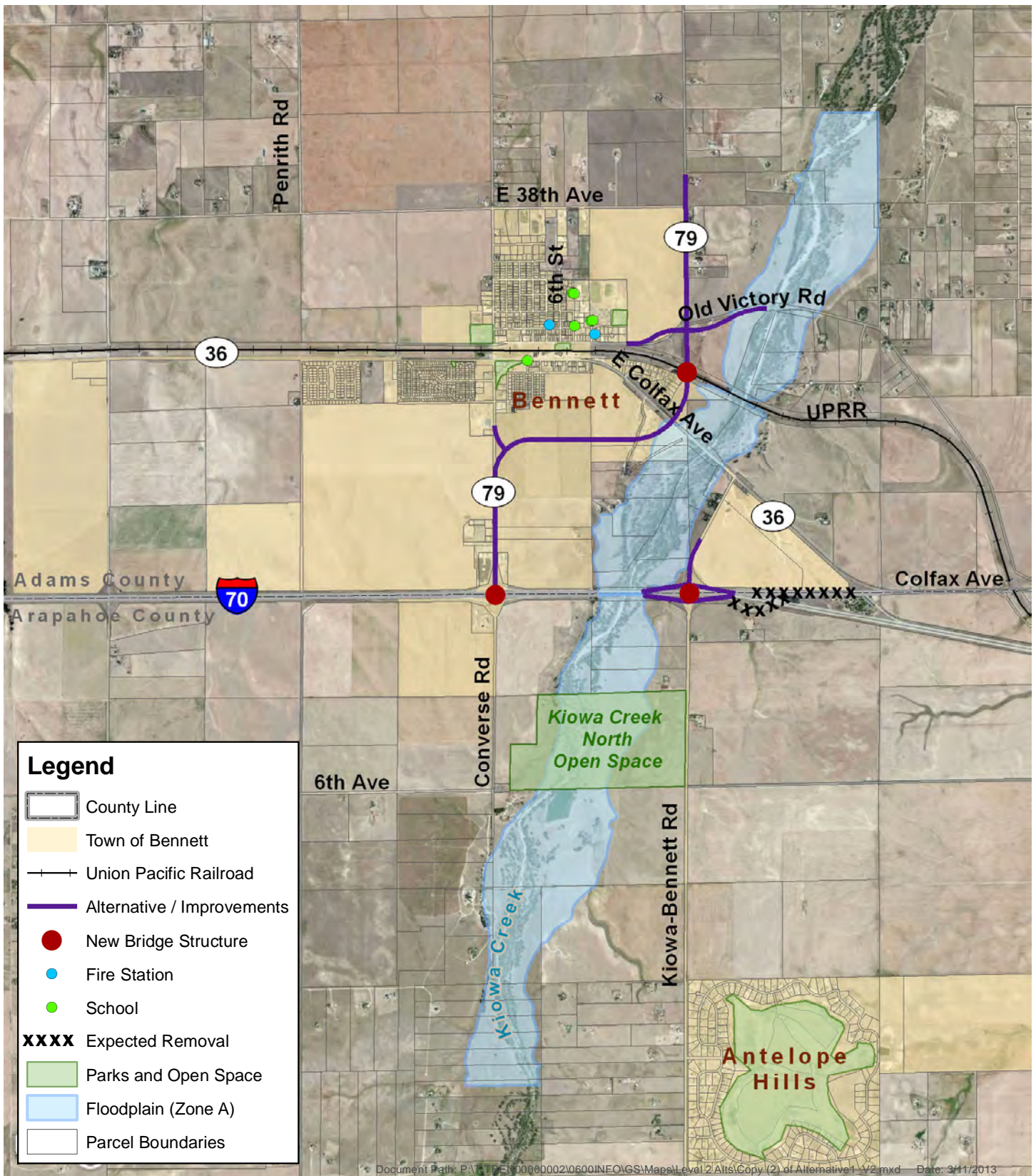


# APPENDIX B

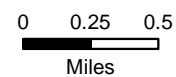
## LEVEL 1 ALTERNATIVES



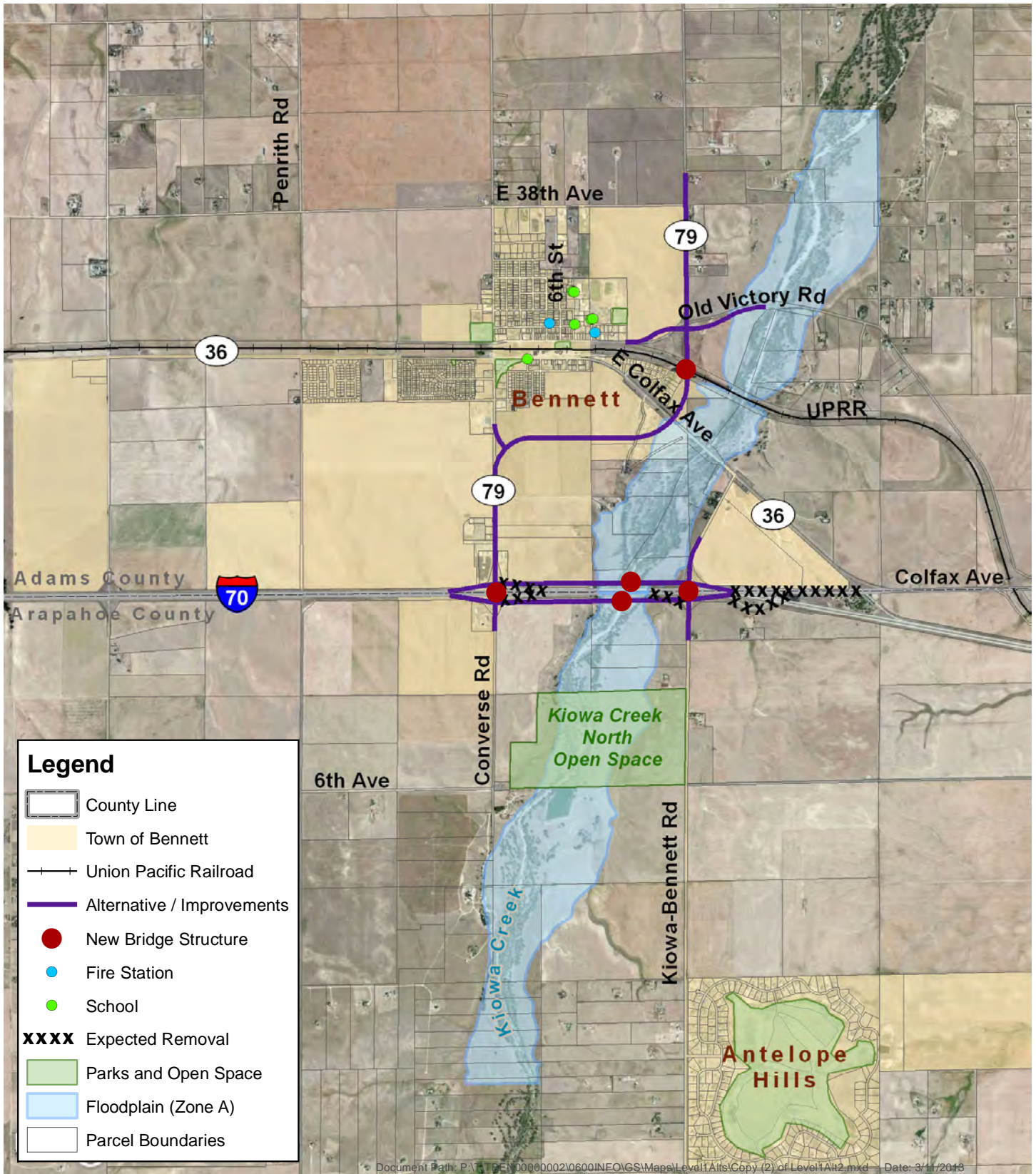
SH 79 AND KIOWA-BENNETT CORRIDOR PEL STUDY Alt 1: East Railroad Crossing with Full Kiowa-Bennett Diamond



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SH 79 AND KIOWA-BENNETT CORRIDOR PEL STUDY Alt 2: East Railroad Crossing with Split Kiowa-Bennett Diamond

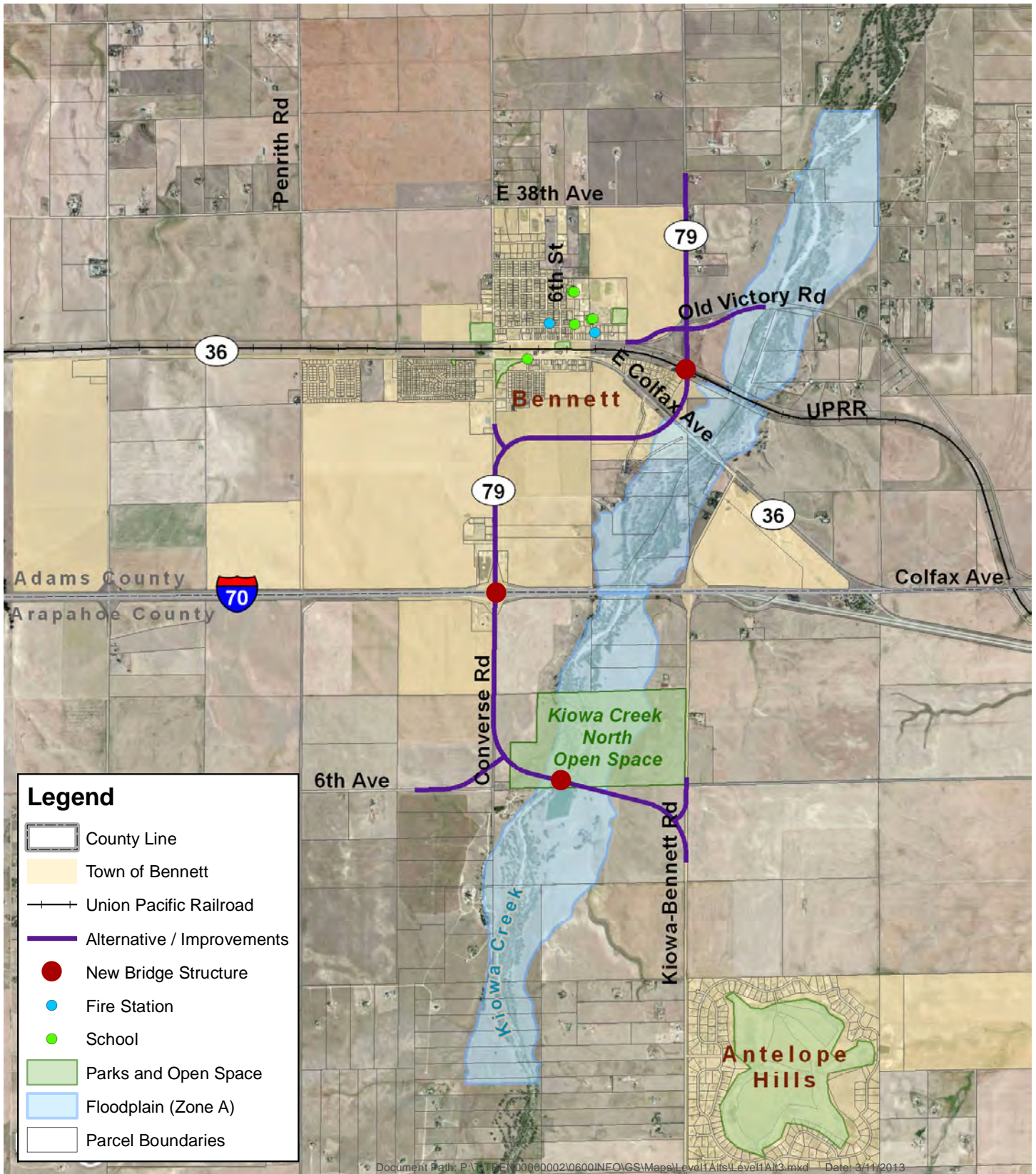


**Legend**

- County Line
- Town of Bennett
- Union Pacific Railroad
- Alternative / Improvements
- New Bridge Structure
- Fire Station
- School
- XXXX** Expected Removal
- Parks and Open Space
- Floodplain (Zone A)
- Parcel Boundaries

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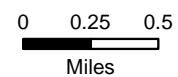
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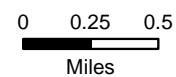
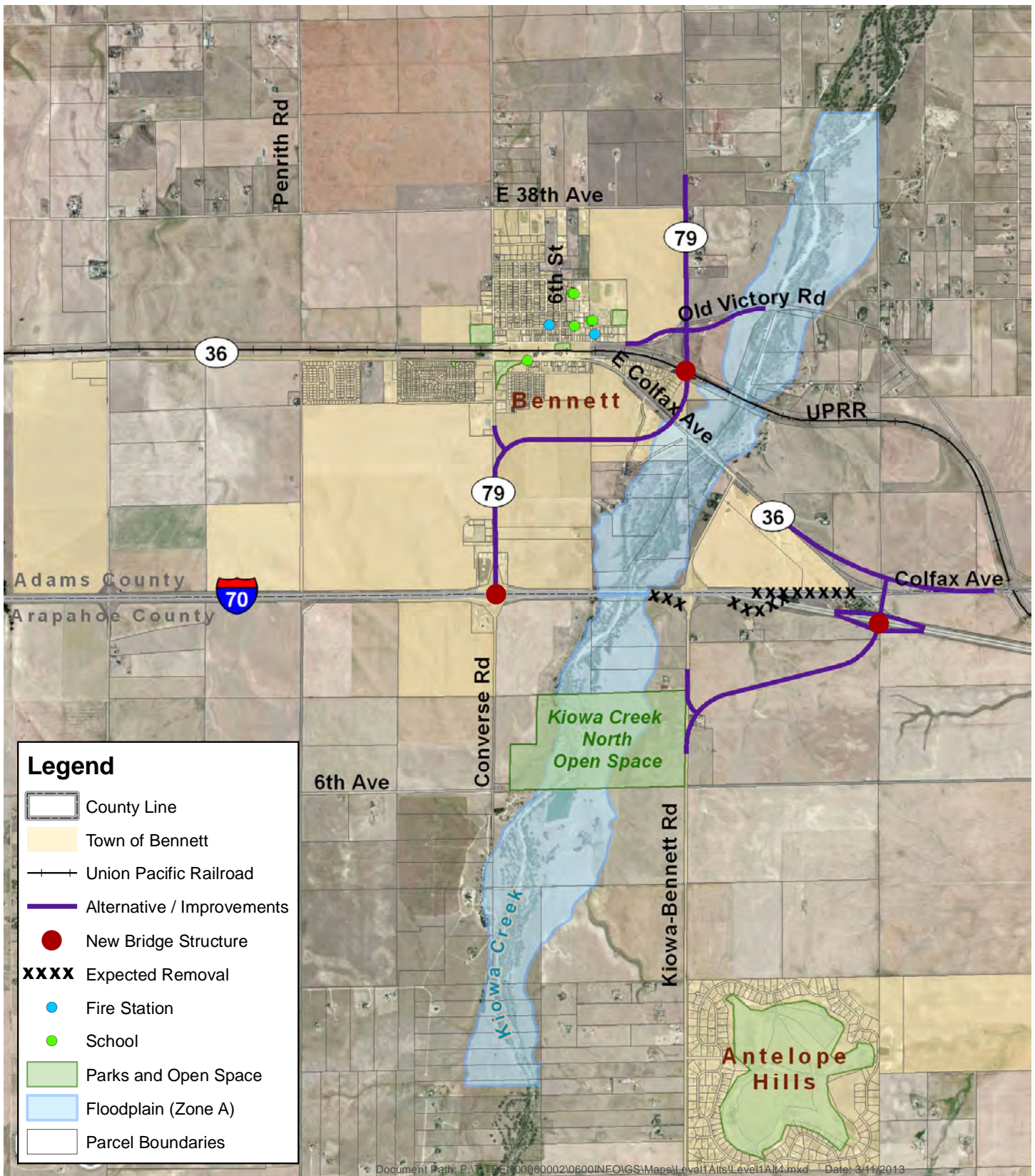
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- County Line
- Town of Bennett
- Union Pacific Railroad
- Alternative / Improvements
- New Bridge Structure
- Fire Station
- School
- Parks and Open Space
- Floodplain (Zone A)
- Parcel Boundaries

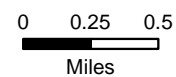
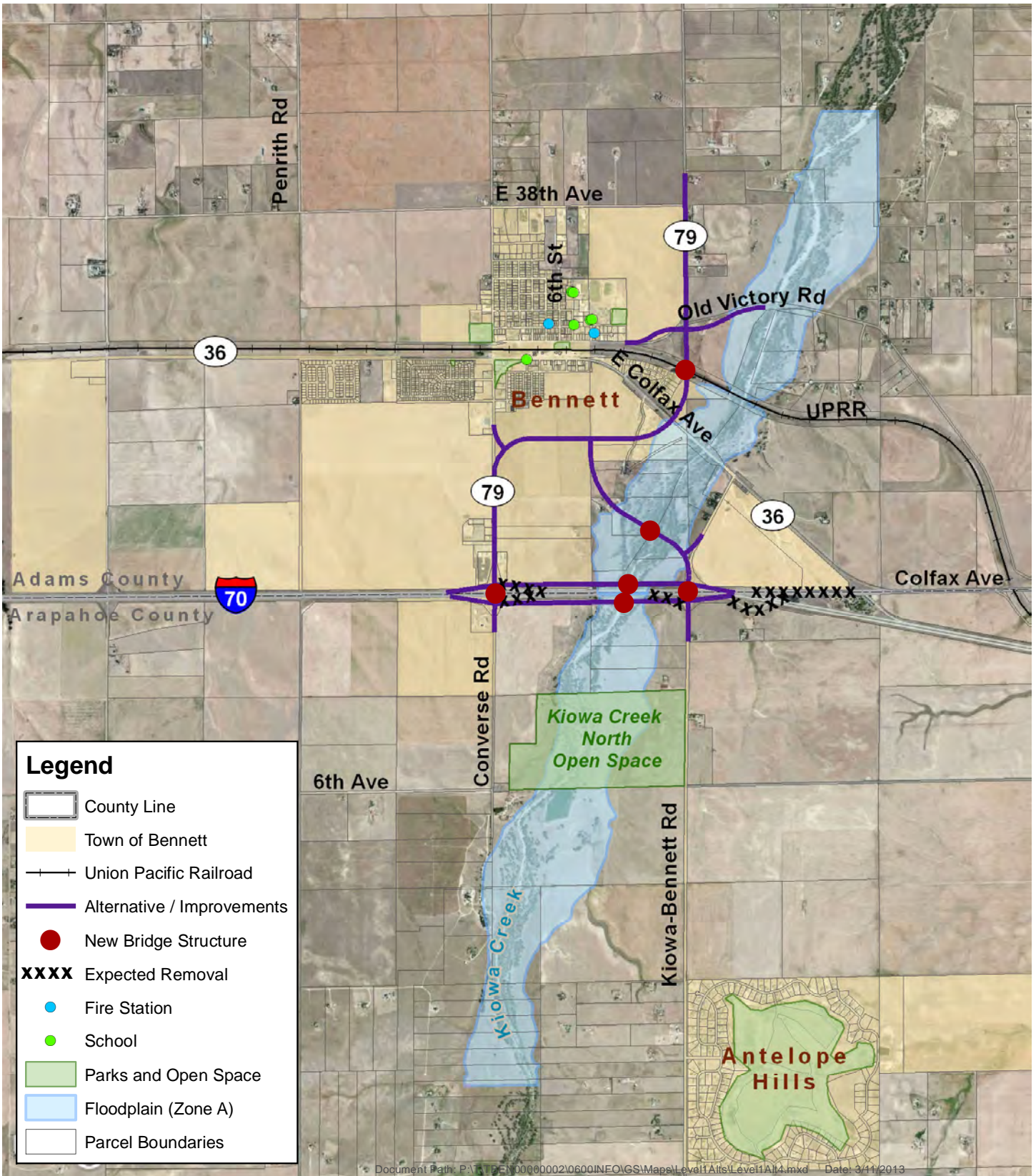
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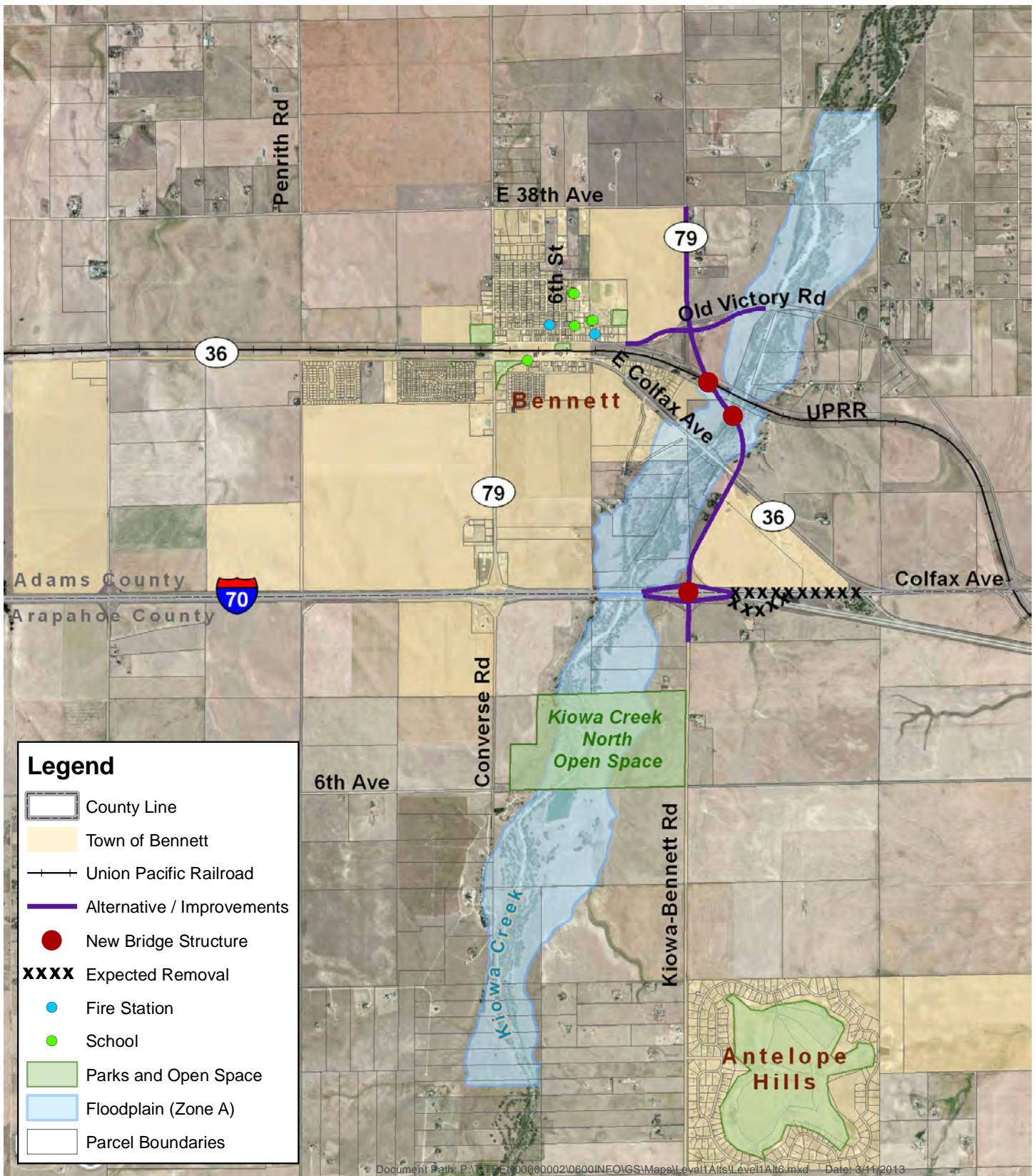
SH 79 AND KIOWA-BENNETT CORRIDOR PEL STUDY Alt 4: East Railroad Crossing with East Kiowa-Bennett Alignment



SH 79 AND KIOWA-BENNETT CORRIDOR PEL STUDY Alt 5: East Railroad Crossing with Central Kiowa-Bennett Alignment



SH 79 AND KIOWA-BENNETT CORRIDOR PEL STUDY Alt 6: East SH 79 with  
Kiowa-Bennett Railroad Crossing



**Legend**

- County Line
- Town of Bennett
- Union Pacific Railroad
- Alternative / Improvements
- New Bridge Structure
- Expected Removal
- Fire Station
- School
- Parks and Open Space
- Floodplain (Zone A)
- Parcel Boundaries

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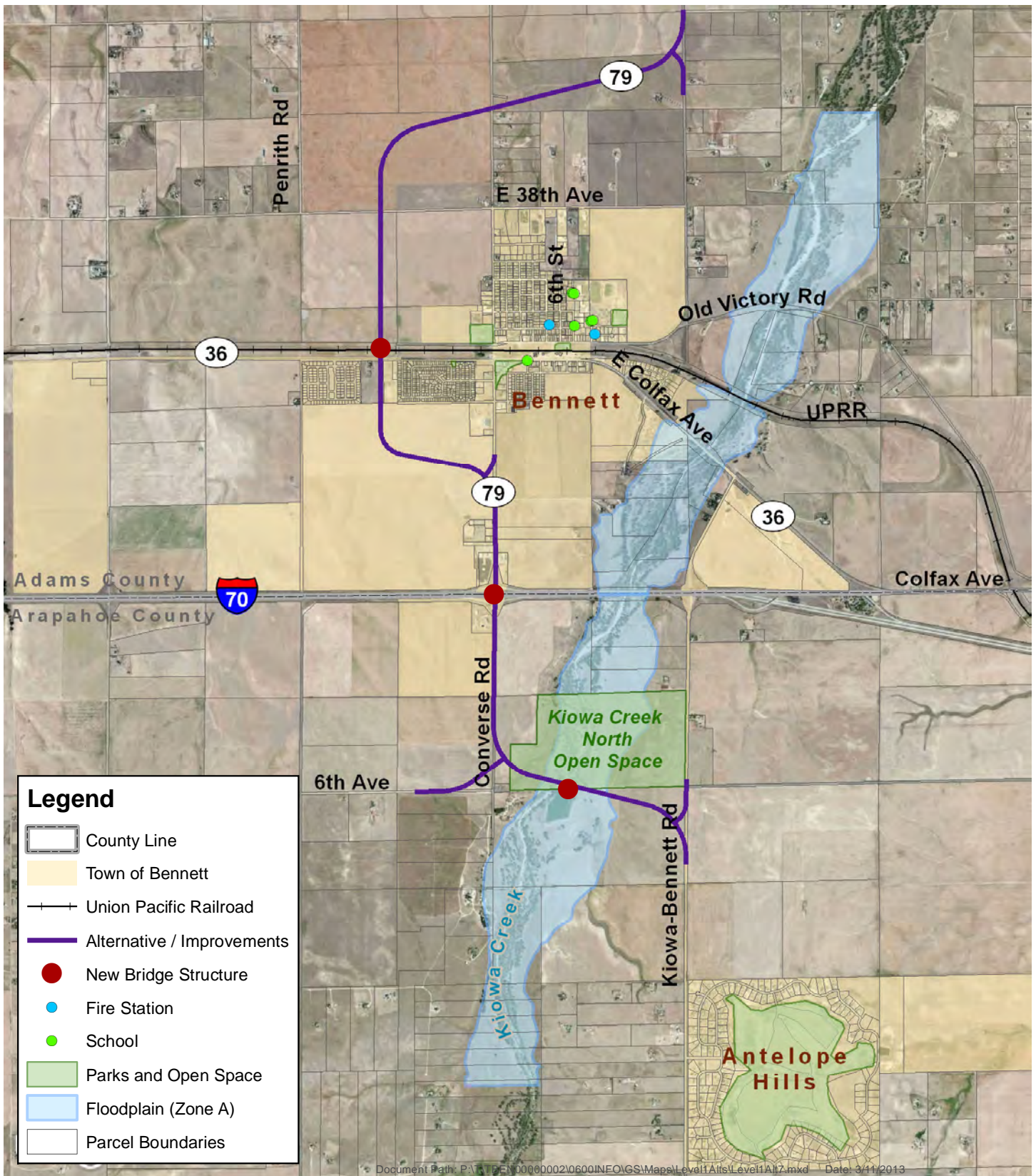


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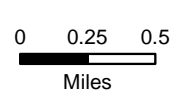


SH 79 AND KIOWA-BENNETT CORRIDOR PEL STUDY Alt 7: West Railroad Crossing with West Kiowa-Bennett Alignment

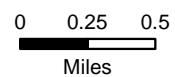
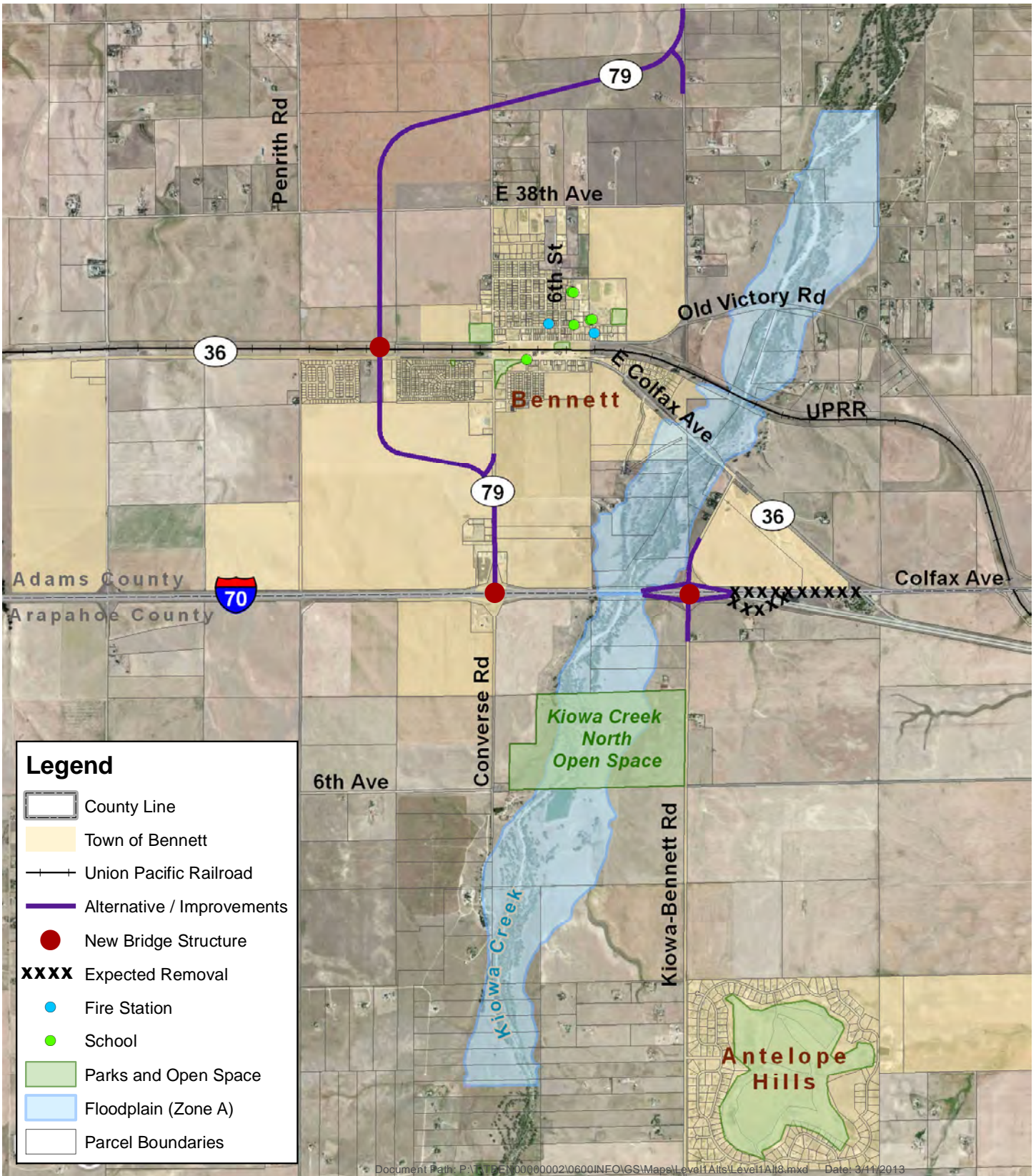


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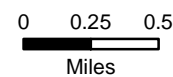
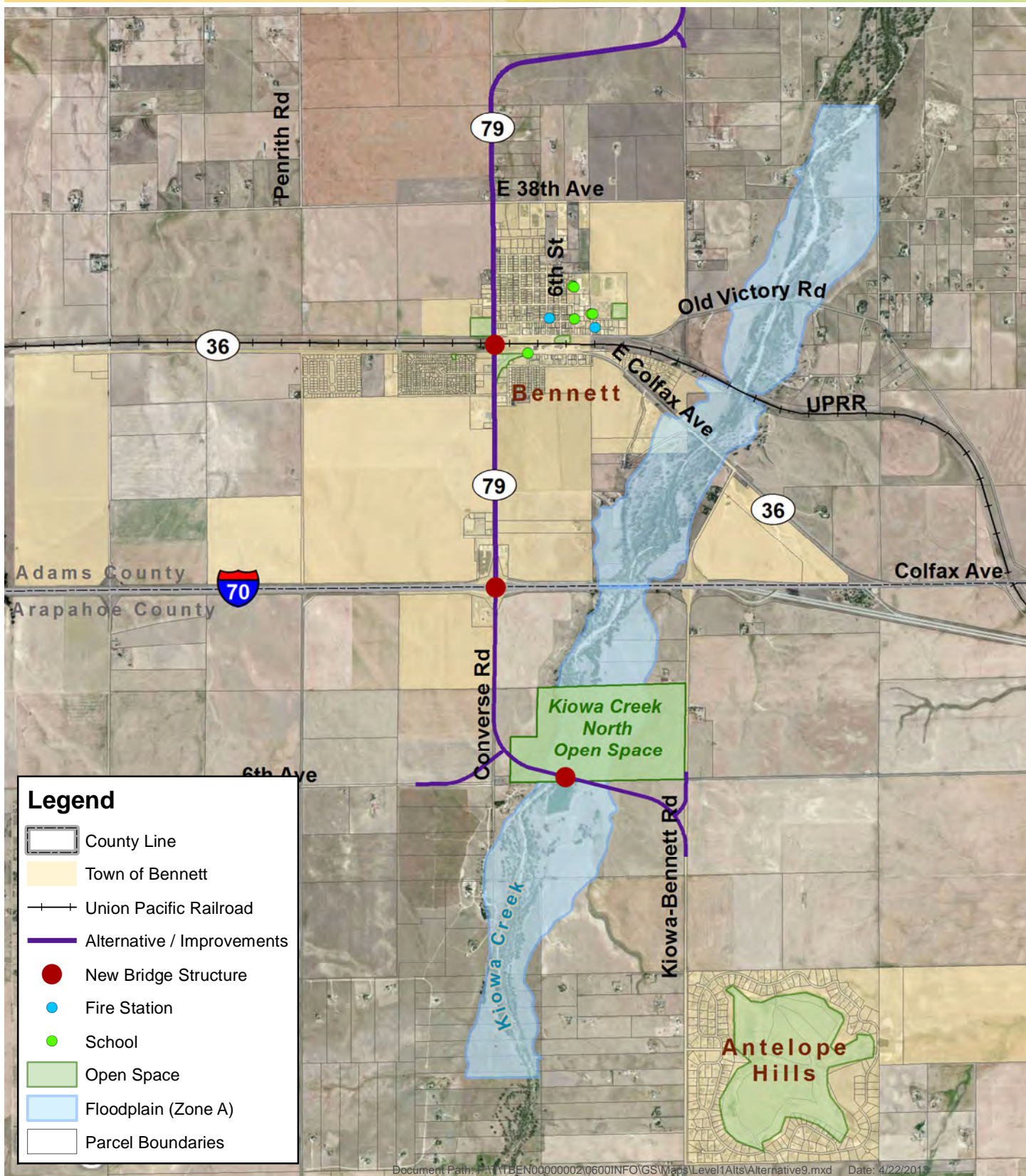
- County Line
- Town of Bennett
- Union Pacific Railroad
- Alternative / Improvements
- New Bridge Structure
- Fire Station
- School
- Parks and Open Space
- Floodplain (Zone A)
- Parcel Boundaries



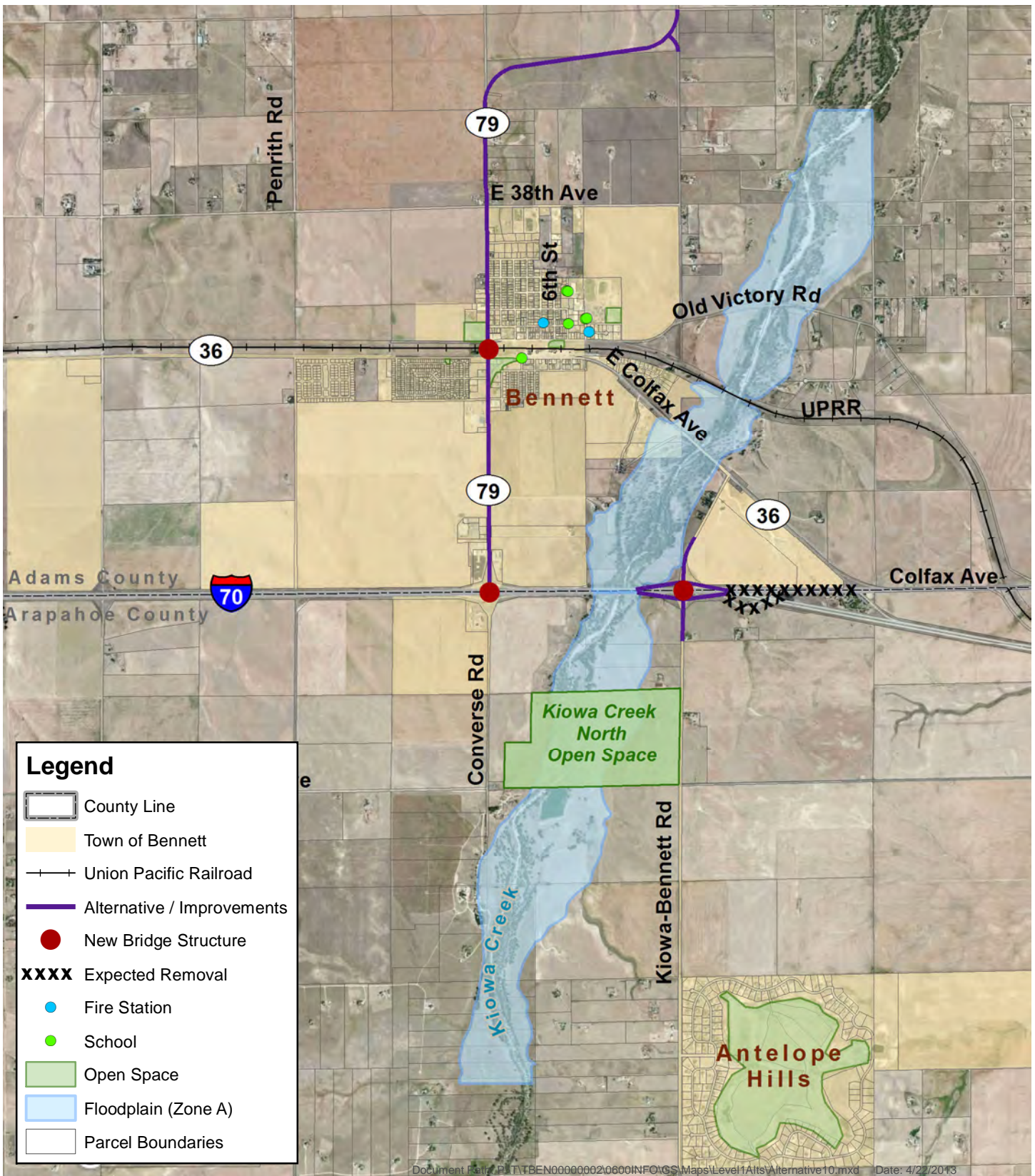
SH 79 AND KIOWA-BENNETT CORRIDOR PEL STUDY Alt 8: West Railroad Crossing with Full Kiowa-Bennett Diamond



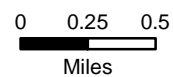
# Alt 9: Central Railroad Crossing SH 79 AND KIOWA-BENNETT CORRIDOR PEL STUDY with West Kiowa-Bennett Alignment



SH 79 AND KIOWA-BENNETT CORRIDOR PEL STUDY Alt 10: Central Railroad Crossing with Full Kiowa-Bennett Diamond



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# APPENDIX C

## LEVEL 2 SCREENING MATRIX



Category	Level 2 Screening Criteria	Color-Code Legend/Description	NA	1	2	3	4	5	6	9
			No Action	East UPRR Crossing with Full K-B Diamond	East UPRR Crossing with Split K-B Diamond	West UPRR Crossing with East K-B Alignment	East UPRR Crossing with East K-B Alignment	East UPRR Crossing with Central K-B Alignment	East SH 79 Alignment with K-B UPRR Crossing	Central UPRR Crossing with West K-B Alignment
Improve Regional Mobility and Connectivity	SH 79 Travel Time	Green = Travel time < 4.6 min Black = Travel time 4.6-5.9 min Red = Travel time > 5.9 min	6.5 min	5.0 min 10-30% reduction	5.0 min 10-30% reduction	5.0 min 10-30% reduction	5.0 min 10-30% reduction	5.0 min 10-30% reduction	4.1 min >30% reduction	5.7 min 10-30% reduction
	Kiowa-Bennett Road Travel Time	Green = Travel time < 6.3 min Black = Travel time 6.3 - 8.0 min Red = Travel time > 8.0 min	8.9 min	6.9 min 10-30% reduction	6.9 min 10-30% reduction	8.6 min <10% reduction	8.4 min <10% reduction	7.1 min 10-30% reduction	6.5 min 10-30% reduction	9.3 min <10% reduction
	Kiowa-Bennett Road Connection to I-70	Green = Travel distance EB < 5.5 mi, WB < 5.0 mi Black = Travel distance EB 5.5 - 7.5 mi, WB 5.0 - 6.0 mi Red = Travel distance EB > 7.5 mi, WB > 6.0 mi	EB = 9.03 mi WB = 6.88 mi	EB = 4.36 mi WB = 4.47 mi	EB = 4.36 mi WB = 4.49 mi	EB = 6.11 mi WB = 4.17 mi	EB = 3.03 mi WB = 6.11 mi	EB = 4.36 mi WB = 4.49 mi	EB = 4.36 mi WB = 4.47 mi	EB = 6.11 mi WB = 4.17 mi
	SH 79 Heavy Vehicle Movements	Green = No stops and turns Black = 1 - 2 stops and turns Red = 3 or more stops and turns	NB = 3 (2 right, 1 left) SB = 3 (1 right, 2 left)	NB = 0 SB = 0	NB = 0 SB = 0	NB = 0 SB = 0	NB = 0 SB = 0	NB = 0 SB = 0	NB = 0 SB = 0	NB = 0 SB = 0
	Kiowa-Bennett Road Heavy Vehicle Movements	Green = No stops and turns Black = 1 - 2 stops and turns Red = 3 or more stops and turns	NB = 3 (2 right, 1 left) SB = 3 (1 right, 2 left)	NB = 2 (1 right, 1 left) SB = 2 (1 right, 1 left)	NB = 2 (1 right, 1 left) SB = 2 (1 right, 1 left)	NB = 0 SB = 0	NB = 2 (1 right, 1 left) SB = 2 (1 right, 1 left)	NB = 1 (right) SB = 1 (left)	NB = 0 SB = 0	NB = 0 SB = 0
Reduce At-Grade Railroad Crossing Conflict and Delay	At-Grade Crossing Delay	Green = Reduction of more than 60% Black = Reduction of 30 to 60% Red = Reduction less than 30%	Approx. 3,900 veh-hrs of delay	Approx 55% reduction	Approx 55% reduction	Approx 55% reduction	Approx 55% reduction	Approx 55% reduction	Approx 50% reduction	Approx 65% reduction
	At-Grade Crossing School Bus Movements	Green = All buses will use grade separated crossing Black = Some buses will use grade separated crossing Red = No buses will use grade separated crossing	All buses must use at-grade crossing	Buses traveling to east and/or south may use SH 79 realignment	Buses traveling to east and/or south may use SH 79 realignment	Buses traveling to east and/or south may use SH 79 realignment	Buses traveling to east and/or south may use SH 79 realignment	Buses traveling to east and/or south may use SH 79 realignment	Buses traveling to east and/or south may use SH 79 realignment	All buses would use at-grade crossing; SH 79 access would be limited
	Emergency Response Time	Green = Addresses all three major concerns* Black = Addresses 1-2 major concerns* Red = Does not address major concerns* * See evaluation criteria memo for a detailed description	Does not address congestion in town or K-B connectivity to I-70	Addresses all concerns	Additional stops required on Frontage Road	A direct connection to I-70 at K-B is preferred	Out of direction travel required to access K-B area	Additional stops required on Frontage Road	Addresses all concerns	Does not address congestion in town or K-B connectivity to I-70
Address Safety Concerns	Heavy Vehicle and Pedestrian Conflict	Green = Only local trucks on Palmer Ave Black = Local and some cut-through trucks on Palmer Ave Red = Trucks will typically use Palmer Ave	Local and regional trucks use SH 79/Palmer Ave	Trucks will use SH 79 realignment or US 36/Coffax	Trucks will use SH 79 realignment or US 36/Coffax	Trucks will use SH 79 realignment or US 36/Coffax	Trucks will use SH 79 realignment or US 36/Coffax	Trucks will use SH 79 realignment or US 36/Coffax	Palmer Ave may serve as a cut-through route for US 36/Coffax trips	US 36/Coffax and SH 79 access will be limited and result in trucks on local roads
	Hazardous Materials Routes	Green = Reduction of more than 75% Black = Reduction of 25-75% Red = Reduction of less than 25%	80 buildings impacted	8 buildings impacted 90% reduction	8 buildings impacted 90% reduction	8 buildings impacted 90% reduction	8 buildings impacted 90% reduction	8 buildings impacted 90% reduction	8 buildings impacted 90% reduction	48 buildings impacted 40% reduction
	Roadway Geometric Improvements	Green = Improves all 4 identified issues* Black = Improves 2 - 3 of the identified issues* Red = Improves 0 - 1 of the identified issues* * See evaluation criteria memo for a detailed description	No Improvements	Improves SH 79/Old Victory Rd and SH 79/I-70 ramps	Improves SH 79/Old Victory Rd and SH 79/I-70 ramps	Improves SH 79/Old Victory Rd, SH 79/I-70 ramps, and K-B Road	Improves SH 79/Old Victory Rd, SH 79/I-70 ramps, and K-B Road	Improves SH 79/Old Victory Rd and SH 79/I-70 ramps	Improves SH 79/Old Victory Rd and K-B Road	Improves K-B Road and SH 79/I-70 ramps
	Potential Design Variances	Green = No variances Black = 1 variance needed Red = More than 1 variance anticipated	N/A	Variance needed for 1 mi interchange spacing	No variance anticipated	No variance anticipated	No variance anticipated	No variance anticipated	Variance needed for 1 mi interchange spacing	No variance anticipated
Avoid and Minimize Environmental Impacts	Potentially Impacted Parks and Recreational Areas	Green = No impacts Black = 1 site and 0.1 - 1 acres Red = More than 1 site or more than 1 acre	No Impacts	No Impacts	No Impacts	18.65 acres impacted	0.26 acres impacted	No Impacts	No Impacts	19.43 acres impacted
	Potentially Impacted Threatened and Endangered Species Areas	Green = Fewer than 5 acres impacted Black = 5 to 10 acres impacted Red = More than 10 acres impacted	No Impacts	7.3 acres	10.1 acres	3.0 acres	3.4 acres	15.4 acres	10.3 acres	2.8 acres
	Potentially Impacted Sensitive Biological Habitat	Green = Floodplain impacts < 2,000 ft Black = Floodplain impacts 2,000 - 5,000 ft Red = Floodplain impacts > 5,000 ft	No Impacts	1,840 ft (0 structures)	4,700 ft (2 structures)	3,290 ft (1 structure)	1,520 ft (0 structures)	7,170 ft (3 structures)	3,410 ft (1 structure)	1,770 ft (1 structure)
	Potentially Impacted Noise Receptors	Green = No receptors within 500 or 1,000 ft of roadway Black = 1 - 30 receptors within 500 or 1,000 ft of roadway Red = More than 30 receptors within 500 or 1,000 ft of roadway	No Impacts	25 receptors	25 receptors	25 receptors	28 receptors	29 receptors	27 receptors	60 receptors
Avoid and Minimize Community Impacts	Right-of-way Required (acres) including "corner" property takes	Green = Less than 50 acres Black = 50 - 80 acres Red = More than 80 acres	None	41.55 acres	57.42 acres	85.62 acres	74.36 acres	69.24 acres	26.80 acres	98.42 acres
	Right-of-way Required (properties)	Green = Less than 25 properties Black = 25 - 50 properties Red = More than 50 properties	None	Residential= 17 Commercial= 3 Public= 2 (1 full, 21 partial)	Residential= 19 Commercial= 5 Public= 2 (1 full, 25 partial)	Residential= 18 Commercial= 4 Public= 3 (1 full, 24 partial)	Residential= 19 Commercial= 3 Public= 3 (1 full, 24 partial)	Residential= 22 Commercial= 5 Public= 2 (1 full, 28 partial)	Residential= 15 Commercial= 0 Public= 1 (0 full, 15 partial)	Residential= 52 Commercial= 14 Public= 11 (22 full, 55 partial)
	Consistency with Established Local Plans and Visions	Green = Consistent Red = Not consistent	Not Consistent Local plans include improvements	Consistent Local plans recommend realignment of SH 79 and K-B access to I-70	Consistent Local plans recommend realignment of SH 79 and K-B access to I-70	Consistent Local plans recommend realignment of SH 79 and K-B access to I-70	Consistent Local plans recommend realignment of SH 79 and K-B access to I-70	Consistent Local plans recommend realignment of SH 79 and K-B access to I-70	Consistent Local plans recommend realignment of SH 79 and K-B access to I-70	Not Consistent Town land use plans include realignment adjacent to downtown
Enhance Economic Opportunities	Access Economic Development	Green = At least 1 mile of added commercial frontage Black = Less than 1 mile of added commercial frontage Red = No new developable commercial frontage	No new developable commercial frontage	>1 mile of added commercial development in town limits	>1 mile of added commercial development in town limits	>1 mile of added commercial development in town limits	>1 mile of added commercial development in town limits	>1 mile of added commercial development in town limits	<1 mile of new commercial development in town limits	<1 mile of new commercial development in town limits
Accommodate Multimodal Connections	Multimodal Access	Green = Consistent Red = Not consistent	Not Consistent Local plans include connections utilizing roadway improvements	Consistent Future trails connect to planned roadway improvements	Consistent Future trails connect to planned roadway improvements	Consistent Future trails connect to planned roadway improvements	Consistent Future trails connect to planned roadway improvements	Consistent Future trails connect to planned roadway improvements	Not Consistent Limited opportunity for future trail connections as planned	Not Consistent Limited opportunity for future trail connections as planned
Maximize Constructability	Conceptual Level Probable Construction Costs, excluding ROW costs (Low, Moderate, High)	Green = Relative low cost Black = Relative moderate cost Red = Relative high cost	None	\$ Low Few structures; minimal traffic control	\$\$\$ High Multiple structures spanning floodplain	\$\$ Medium Kiowa Creek crossing requires large structure	\$ Low Few structures; minimal traffic control	\$\$\$ High Multiple structures spanning floodplain	\$ Medium Large amount of cut/fill work	\$\$\$ High Kiowa Creek crossing, high traffic control and ROW costs
	Constructability Issues (Low, Moderate, High)	Green = No major anticipated complexity Black = Some anticipated complexity Red = Major anticipated complexity	N/A	Low Typical structure and traffic impacts	Moderate Due to major water crossings	Easy Typical structure and traffic impacts	Easy Typical structure and traffic impacts	High Due to major water crossings	Moderate Due to complexity of bridge over Kiowa Creek	High Due to major water crossings and traffic impacts
	Railroad Process and Requirements (Easy, Moderate, Difficult)	Green = Minimal concerns with railroad coordination Black = Some concerns with railroad coordination Red = Major concerns with railroad coordination	N/A	Moderate Underpass would require shoely railroad detour but overpass would require less coordination	Moderate Underpass would require shoely railroad detour but overpass would require less coordination	Moderate Underpass would require shoely railroad detour but overpass would require less coordination	Moderate Underpass would require shoely railroad detour but overpass would require less coordination	Moderate Underpass would require shoely railroad detour but overpass would require less coordination	Moderate Underpass would require shoely railroad detour but overpass would require less coordination	Easy Overpass would need minimal railroad coordination
	Phasing Opportunities (Easy, Moderate, Difficult)	Green = Opportunities for phased improvements Black = Limited opportunities for phased implementation Red = Usable sections difficult to implement in phases	N/A	Easy Smaller usable sections could be implemented at separate times	Moderate Larger cost to implement individual sections	Easy Smaller usable sections could be implemented at separate times	Easy Smaller usable sections could be implemented at separate times	Moderate Larger cost to implement individual sections	Difficult Meaningful sections would require larger funding sources	Difficult Meaningful sections would require larger funding sources
DRAFT RECOMMENDATIONS			CARRIED FORWARD	CARRIED FORWARD	CARRIED FORWARD	ELIMINATED	CARRIED FORWARD	ELIMINATED	ELIMINATED	ELIMINATED
NOTES	Does not improve regional mobility and connectivity because trucks and through traffic must utilize the downtown Bennett roadway network and there is no reduction in travel time through the study areas.		Improves regional mobility with reduced travel time along SH 79 & K-B.	Improves regional connectivity with direct connection from K-B to I-70.	Improves regional connectivity with direct connection from K-B to I-70.	Does not improve regional connectivity to the extent of other alternatives with a minimal reduction in K-B travel time.	Does not improve regional connectivity to the extent of other alternatives with a minimal reduction in K-B travel time.	Improves regional mobility with reduced travel time along SH 79 & K-B.	Improves regional connectivity with direct connection from K-B to I-70.	Does not improve regional connectivity to the extent of other alternatives with a minimal reduction in K-B travel time.
	Does not reduce conflict and delay at the at-grade railroad crossing. Does not address safety concerns. Not consistent with local plans for multimodal access or local planning efforts.		Reduces conflict & delay at the at-grade crossing by diverting regional traffic and buses to the grade separation.	Addresses safety concerns by reducing the vehicle and pedestrian conflict & reducing the homes/places exposed to haz mat route.	Addresses safety concerns by reducing the vehicle and pedestrian conflict & reducing the homes/places exposed to haz mat route.	Addresses safety concerns by reducing the vehicle and pedestrian conflict & reducing the homes/places exposed to haz mat route.	Addresses safety concerns by reducing the vehicle and pedestrian conflict & reducing the homes/places exposed to haz mat route.	Addresses safety concerns by reducing the vehicle and pedestrian conflict & reducing the homes/places exposed to haz mat route.	Addresses safety concerns by reducing the vehicle and pedestrian conflict & reducing the homes/places exposed to haz mat route.	Addresses safety concerns by reducing the vehicle and pedestrian conflict & reducing the homes/places exposed to haz mat route.

\*K-B\* = Kiowa-Bennett Road







# APPENDIX D

## LEVEL 3 ALTERNATIVES COST ESTIMATES



**SH 79 and Kiowa-Bennett Corridor PEL  
Level 3 Alternatives Cost Estimates**

<b>Alternative 1A (Full Diamond Ramp Connections)</b>	
<b>Kiowa-Bennett Road</b>	
Kiowa-Bennett Road at Colfax Avenue	\$874,110
Kiowa-Bennett Road and I-70 Interchange (Includes new bridge over I-70)	\$5,728,254
	<b>\$6,600,000</b>
<b>SH 79</b>	
SH 79 and I-70 Interchange (Includes new bridge over I-70)	\$6,069,547
SH 79 Improvements (I-70 to Colfax Ave.)	\$13,092,388
SH 79 Improvements (Colfax Ave to north end) (Includes bridge over railroad)	\$11,899,282
	<b>\$31,100,000</b>
<b>Total Cost Alternative 1A</b>	<b>\$37,700,000</b>

<b>Alternative 1B (Full Diamond Ramps With Colfax Ave. Connections)</b>	
<b>Kiowa-Bennett Road</b>	
Kiowa-Bennett Road at Colfax Avenue	\$874,110
Kiowa-Bennett Road and I-70 Interchange (Includes new bridge over I-70)	\$5,714,314
	<b>\$6,590,000</b>
<b>SH 79</b>	
SH 79 and I-70 Interchange (Includes new bridge over I-70)	\$6,069,547
SH 79 Improvements (I-70 to Colfax Ave.)	\$13,092,388
SH 79 Improvements (Colfax Ave to north end) (Includes bridge over railroad)	\$11,899,282
	<b>\$31,100,000</b>
<b>Total Cost Alternative 1B</b>	<b>\$37,700,000</b>

<b>Alternative 2 (Split Diamond Ramp Connections)</b>	
<b>Kiowa-Bennett Road</b>	
Kiowa-Bennett Road at Colfax Avenue	\$874,110
Kiowa-Bennett Road and I-70 Interchange (Includes new bridge over I-70)	\$18,874,059
	<b>\$19,750,000</b>
<b>SH 79</b>	
SH 79 and I-70 Interchange (Includes new bridge over I-70)	\$6,069,547
SH 79 Improvements (I-70 to Colfax Ave.)	\$13,092,388
SH 79 Improvements (Colfax Ave to north end) (Includes bridge over railroad)	\$11,899,282
	<b>\$31,100,000</b>
<b>Total Cost Alternative 2</b>	<b>\$50,900,000</b>

<b>Alternative 4 (East Kiowa-Bennett Road Alignment)</b>	
<b>Kiowa-Bennett Road</b>	
Kiowa-Bennett Road at Colfax Avenue	\$874,110
Kiowa-Bennett Road and I-70 Interchange (Includes new bridge over I-70)	\$11,069,417
	<b>\$11,940,000</b>
<b>SH 79</b>	
SH 79 and I-70 Interchange (Includes new bridge over I-70)	\$6,069,547
SH 79 Improvements (I-70 to Colfax Ave.)	\$13,092,388
SH 79 Improvements (Colfax Ave to north end) (Includes bridge over railroad)	\$11,899,282
	<b>\$31,100,000</b>
<b>Total Cost Alternative 4</b>	<b>\$43,000,000</b>

PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COSTS					
I-70 AT STATE HIGHWAY 79 - INTERCHANGE RECONSTRUCTION					
ITEM NO.	ITEM	UNIT	UNIT COST	ALTERNATIVE ITEM TOTAL	ALTERNATIVE TOTAL COST
201	Clearing and Grubbing	LS	\$10,000		\$0
202	Removal of Pavement	SY	\$3.50	10,033	\$35,117
202	Removal of Bridge	EA	\$75,000.00	1	\$75,000
203	Earthwork	CY	\$10.00	8,241	\$82,413
212	Seeding (Native)	ACRE	\$1,000.00	0.6	\$604
213	Mulching (Weed Free Straw)	ACRE	\$1,000.00	0.6	\$604
213	Mulch Tackifier	LB	\$2.00	121	\$242
304	Aggregate Base Course (Class 6)	TON	\$15.00	3,699	\$55,490
403	Hot Mix Asphalt (Grading SX) (100)	TON	\$80.00	1,920	\$153,586
412	Concrete Pavement (9 Inch) [I-70 Ramps & Intersections]	SY	\$40.00	7,999	\$319,951
412	Gravel Shoulder	TON	\$25.00		\$0
603	SH 79 Bridge over UPRR (60' wide x 190 lf)	SF	\$120.00		\$0
603	SH 79 Bridge Over I-70 (81' wide x 228 lf)	SF	\$120.00	18,468	\$2,216,160
603	Kiowa-Bennett Bridge Over I-70 (52' wide x 228 lf)	SF	\$120.00		\$0
603	Other Structures	SF	\$200.00		\$0
608	Concrete Sidewalk	SY	\$40.00	565	\$22,591
608	Concrete Curb Ramp	SY	\$75.00	75	\$5,592
609	Curb and Gutter Type 2 (Section I-B)	LF	\$18.00		\$0
609	Curb and Gutter Type 2 (Section II-B)	LF	\$22.00	975	\$21,450
610	Median Landscaping (native grasses/non irrigated)	SF	\$2.00		\$0
610	Median Cover Material (Patterned Concrete)	SF	\$6.00		\$0
614	Traffic Signal	EA	\$300,000.00	1	\$300,000
<b>SUB TOTAL:</b>					<b>\$3,288,800</b>
	RIGHT-OF-WAY	SF	\$0.50		\$0
	Temporary Easement (10% of total ROW)	SF	\$0.15		\$0
<b>RIGHT-OF-WAY TOTAL:</b>					<b>\$0</b>
	Erosion Control	LS	5%	\$164,440	\$164,440
	Drainage	LS	5%	\$164,440	\$164,440
	Mobilization	LS	4%	\$131,552	\$131,552
	Surveying	LS	5%	\$164,440	\$164,440
	Pavement Marking & Signing	LS	5%	\$164,440	\$164,440
	Traffic Control (5%)	LS	5%	\$164,440	\$164,440
	Utilities (5%)	LS	5%	\$164,440	\$164,440
	FORCE ACCOUNTS AND MINOR CONTRACT REVISIONS	LS	2%	\$65,776	\$65,776
<b>SUB TOTAL:</b>					<b>\$4,472,769</b>
	DESIGN		8%	\$357,821	\$357,821
	CONSTRUCTION MANAGEMENT		10%	\$447,277	\$447,277
<b>SUB TOTAL:</b>					<b>\$5,277,867</b>
	GENERAL CONTINGENCY AND UNACCOUNTED ITEMS		15%	\$791,680	\$791,680
<b>CONSTRUCTION COST TOTAL 2013</b>					<b>\$6,069,547</b>

**Notes:**

- 1) Assume 8" for Hot Mix Asphalt Application rate is 110 lb/sq yd/inch
- 2) Assume 6" for Aggregate Base Course (Class 6). Application rate is 133 lb/cf.
- 3) Lighting is not included.

PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COSTS					
STATE HIGHWAY 79 RECONSTRUCTION - I-70 TO COLFAX AVENUE					
ITEM NO.	ITEM	UNIT	UNIT COST	ALTERNATIVE ITEM TOTAL	ALTERNATIVE TOTAL COST
201	Clearing and Grubbing	LS	\$25,000	1	\$25,000
202	Removal of Pavement	SY	\$3.50	26,570	\$92,996
202	Removal of Bridge	EA	\$75,000.00		\$0
203	Earthwork	CY	\$10.00	84,573	\$845,730
212	Seeding (Native)	ACRE	\$1,000.00	1.7	\$1,651
213	Mulching (Weed Free Straw)	ACRE	\$1,000.00	1.7	\$1,651
213	Mulch Tackifier	LB	\$2.00	330	\$660
304	Aggregate Base Course (Class 6)	TON	\$15.00	27,343	\$410,152
403	Hot Mix Asphalt (Grading SX) (100)	TON	\$80.00	42,779	\$3,422,344
412	Concrete Pavement (9 Inch) [I-70 Ramps & Intersections]	SY	\$40.00		\$0
412	Gravel Shoulder	TON	\$25.00		\$0
603	SH 79 Bridge over UPRR (60' wide x 190 lf)	SF	\$120.00		\$0
603	SH 79 Bridge Over I-70 (81' wide x 228 lf)	SF	\$120.00		\$0
603	Kiowa-Bennett Bridge Over I-70 (52' wide x 228 lf)	SF	\$120.00		\$0
603	Other Structures	SF	\$200.00		\$0
608	Concrete Sidewalk	SY	\$40.00	17,966	\$718,653
608	Concrete Curb Ramp	SY	\$75.00	226	\$16,933
609	Curb and Gutter Type 2 (Section I-B)	LF	\$18.00	1,326	\$23,868
609	Curb and Gutter Type 2 (Section II-B)	LF	\$22.00	18,037	\$396,814
610	Median Landscaping (native grasses/non irrigated)	SF	\$2.00	82,821	\$165,642
610	Median Cover Material (Patterned Concrete)	SF	\$6.00	9,860	\$59,160
614	Traffic Signal	EA	\$300,000.00	2	\$600,000
<b>SUB TOTAL:</b>					<b>\$6,781,254</b>
	RIGHT-OF-WAY	SF	\$0.50	826,276	\$413,138
	Temporary Easement (10% of total ROW)	SF	\$0.15	82,628	\$12,395
<b>RIGHT-OF-WAY TOTAL:</b>					<b>\$425,533</b>
	Erosion Control	LS	5%	\$339,063	\$339,063
	Drainage	LS	5%	\$339,063	\$339,063
	Mobilization	LS	4%	\$271,250	\$271,250
	Surveying	LS	5%	\$339,063	\$339,063
	Pavement Marking & Signing	LS	5%	\$339,063	\$339,063
	Traffic Control (5%)	LS	5%	\$339,063	\$339,063
	Utilities (5%)	LS	5%	\$339,063	\$339,063
	FORCE ACCOUNTS AND MINOR CONTRACT REVISIONS	LS	2%	\$135,625	\$135,625
<b>SUB TOTAL:</b>					<b>\$9,648,038</b>
	DESIGN		8%	\$771,843	\$771,843
	CONSTRUCTION MANAGEMENT		10%	\$964,804	\$964,804
<b>SUB TOTAL:</b>					<b>\$11,384,685</b>
	GENERAL CONTINGENCY AND UNACCOUNTED ITEMS		15%	\$1,707,703	\$1,707,703
<b>CONSTRUCTION COST TOTAL 2013</b>					<b>\$13,092,388</b>

**Notes:**

- 1) Assume 8" for Hot Mix Asphalt Application rate is 110 lb/sq yd/inch
- 2) Assume 6" for Aggregate Base Course (Class 6). Application rate is 133 lb/cf.
- 3) Lighting is not included.

PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COSTS					
STATE HIGHWAY 79 RECONSTRUCTION - COLFAX AVENUE TO NORTH END					
ITEM NO.	ITEM	UNIT	UNIT COST	ALTERNATIVE ITEM TOTAL	ALTERNATIVE TOTAL COST
201	Clearing and Grubbing	LS	\$25,000	1	\$25,000
202	Removal of Pavement	SY	\$3.50	10,221	\$35,773
202	Removal of Bridge	EA	\$75,000.00		\$0
203	Earthwork	CY	\$10.00	294,024	\$2,940,240
212	Seeding (Native)	ACRE	\$1,000.00	13.1	\$13,073
213	Mulching (Weed Free Straw)	ACRE	\$1,000.00	13.1	\$13,073
213	Mulch Tackifier	LB	\$2.00	2,615	\$5,229
304	Aggregate Base Course (Class 6)	TON	\$15.00	13,027	\$195,409
403	Hot Mix Asphalt (Grading SX) (100)	TON	\$80.00	19,155	\$1,532,366
412	Concrete Pavement (9 Inch) [I-70 Ramps & Intersections]	SY	\$40.00		\$0
412	Gravel Shoulder	TON	\$25.00		\$0
603	SH 79 Bridge over UPRR (60' wide x 190 lf)	SF	\$120.00	11,400	\$1,368,000
603	SH 79 Bridge Over I-70 (81' wide x 228 lf)	SF	\$120.00		\$0
603	Kiowa-Bennett Bridge Over I-70 (52' wide x 228 lf)	SF	\$120.00		\$0
603	Other Structures	SF	\$200.00		\$0
608	Concrete Sidewalk	SY	\$40.00	39	\$1,560
608	Concrete Curb Ramp	SY	\$75.00		\$0
609	Curb and Gutter Type 2 (Section I-B)	LF	\$18.00		\$0
609	Curb and Gutter Type 2 (Section II-B)	LF	\$22.00		\$0
610	Median Landscaping (native grasses/non irrigated)	SF	\$2.00		\$0
610	Median Cover Material (Patterned Concrete)	SF	\$6.00		\$0
614	Traffic Signal	EA	\$300,000.00		\$0
<b>SUB TOTAL:</b>					<b>\$6,129,722</b>
	RIGHT-OF-WAY	SF	\$0.50	839,598	\$419,799
	Temporary Easement (10% of total ROW)	SF	\$0.15	83,960	\$12,594
<b>RIGHT-OF-WAY TOTAL:</b>					<b>\$432,393</b>
	Erosion Control	LS	5%	\$306,486	\$306,486
	Drainage	LS	5%	\$306,486	\$306,486
	Mobilization	LS	4%	\$245,189	\$245,189
	Surveying	LS	5%	\$306,486	\$306,486
	Pavement Marking & Signing	LS	5%	\$306,486	\$306,486
	Traffic Control (5%)	LS	5%	\$306,486	\$306,486
	Utilities (5%)	LS	5%	\$306,486	\$306,486
	FORCE ACCOUNTS AND MINOR CONTRACT REVISIONS	LS	2%	\$122,594	\$122,594
<b>SUB TOTAL:</b>					<b>\$8,768,815</b>
	DESIGN		8%	\$701,505	\$701,505
	CONSTRUCTION MANAGEMENT		10%	\$876,882	\$876,882
<b>SUB TOTAL:</b>					<b>\$10,347,202</b>
	GENERAL CONTINGENCY AND UNACCOUNTED ITEMS		15%	\$1,552,080	\$1,552,080
<b>CONSTRUCTION COST TOTAL 2013</b>					<b>\$11,899,282</b>

**Notes:**

- 1) Assume 8" for Hot Mix Asphalt Application rate is 110 lb/sq yd/inch
- 2) Assume 6" for Aggregate Base Course (Class 6). Application rate is 133 lb/cf.
- 3) Lighting is not included.

PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COSTS					
COLFAX AVENUE RECONSTRUCTION AT KIOWA-BENNETT ROAD					
ITEM NO.	ITEM	UNIT	UNIT COST	ALTERNATIVE ITEM TOTAL	ALTERNATIVE TOTAL COST
201	Clearing and Grubbing	LS	\$25,000		\$0
202	Removal of Pavement	SY	\$3.50	7,985	\$27,948
202	Removal of Bridge	EA	\$75,000.00		\$0
203	Earthwork	CY	\$10.00	3,446	\$34,458
212	Seeding (Native)	ACRE	\$1,000.00	0.4	\$397
213	Mulching (Weed Free Straw)	ACRE	\$1,000.00	0.4	\$397
213	Mulch Tackifier	LB	\$2.00	79	\$159
304	Aggregate Base Course (Class 6)	TON	\$15.00	3,093	\$46,401
403	Hot Mix Asphalt (Grading SX) (100)	TON	\$80.00	4,548	\$363,870
412	Concrete Pavement (9 Inch) [I-70 Ramps & Intersections]	SY	\$40.00		\$0
412	Gravel Shoulder	TON	\$25.00		\$0
603	SH 79 Bridge over UPRR (60' wide x 190 lf)	SF	\$120.00		\$0
603	SH 79 Bridge Over I-70 (81' wide x 228 lf)	SF	\$120.00		\$0
603	Kiowa-Bennett Bridge Over I-70 (52' wide x 228 lf)	SF	\$120.00		\$0
603	Other Structures	SF	\$200.00		\$0
608	Concrete Sidewalk	SY	\$40.00		\$0
608	Concrete Curb Ramp	SY	\$75.00		\$0
609	Curb and Gutter Type 2 (Section I-B)	LF	\$18.00		\$0
609	Curb and Gutter Type 2 (Section II-B)	LF	\$22.00		\$0
610	Median Landscaping (native grasses/non irrigated)	SF	\$2.00		\$0
610	Median Cover Material (Patterned Concrete)	SF	\$6.00		\$0
614	Traffic Signal	EA	\$300,000.00		\$0
<b>SUB TOTAL:</b>					<b>\$473,630</b>
	RIGHT-OF-WAY	SF	\$0.50	21	\$11
	Temporary Easement (10% of total ROW)	SF	\$0.15	2	\$1
<b>RIGHT-OF-WAY TOTAL:</b>					<b>\$12</b>
	Erosion Control	LS	5%	\$23,682	\$23,682
	Drainage	LS	5%	\$23,682	\$23,682
	Mobilization	LS	4%	\$18,945	\$18,945
	Surveying	LS	5%	\$23,682	\$23,682
	Pavement Marking & Signing	LS	5%	\$23,682	\$23,682
	Traffic Control (5%)	LS	5%	\$23,682	\$23,682
	Utilities (5%)	LS	5%	\$23,682	\$23,682
	FORCE ACCOUNTS AND MINOR CONTRACT REVISIONS	LS	2%	\$9,473	\$9,473
<b>SUB TOTAL:</b>					<b>\$644,149</b>
	DESIGN		8%	\$51,532	\$51,532
	CONSTRUCTION MANAGEMENT		10%	\$64,415	\$64,415
<b>SUB TOTAL:</b>					<b>\$760,096</b>
	GENERAL CONTINGENCY AND UNACCOUNTED ITEMS		15%	\$114,014	\$114,014
<b>CONSTRUCTION COST TOTAL 2013</b>					<b>\$874,110</b>

**Notes:**

- 1) Assume 8" for Hot Mix Asphalt Application rate is 110 lb/sq yd/inch
- 2) Assume 6" for Aggregate Base Course (Class 6). Application rate is 133 lb/cf.
- 3) Lighting is not included.

PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COSTS					
I-70 AT KIOWA-BENNETT ROAD - INTERCHANGE RECONSTRUCTION (ALTERNATIVE 1A)					
ITEM NO.	ITEM	UNIT	UNIT COST	ALTERNATIVE ITEM TOTAL	ALTERNATIVE TOTAL COST
201	Clearing and Grubbing	LS	\$10,000	1	\$10,000
202	Removal of Pavement	SY	\$3.50	25,933	\$90,765
202	Removal of Bridge	EA	\$75,000.00	2	\$150,000
203	Earthwork	CY	\$10.00	18,870	\$188,701
212	Seeding (Native)	ACRE	\$1,000.00	2.2	\$2,221
213	Mulching (Weed Free Straw)	ACRE	\$1,000.00	2.2	\$2,221
213	Mulch Tackifier	LB	\$2.00	444	\$889
304	Aggregate Base Course (Class 6)	TON	\$15.00	8,470	\$127,055
403	Hot Mix Asphalt (Grading SX) (100)	TON	\$80.00	3,397	\$271,799
412	Concrete Pavement (9 Inch) [I-70 Ramps & Intersections]	SY	\$40.00	20,584	\$823,342
412	Gravel Shoulder	TON	\$25.00		\$0
603	SH 79 Bridge over UPRR (60' wide x 190 lf)	SF	\$120.00		\$0
603	SH 79 Bridge Over I-70 (81' wide x 228 lf)	SF	\$120.00		\$0
603	Kiowa-Bennett Bridge Over I-70 (52' wide x 228 lf)	SF	\$120.00	11,856	\$1,422,720
603	Other Structures	SF	\$200.00		\$0
608	Concrete Sidewalk	SY	\$40.00		\$0
608	Concrete Curb Ramp	SY	\$75.00		\$0
609	Curb and Gutter Type 2 (Section I-B)	LF	\$18.00		\$0
609	Curb and Gutter Type 2 (Section II-B)	LF	\$22.00		\$0
610	Median Landscaping (native grasses/non irrigated)	SF	\$2.00		\$0
610	Median Cover Material (Patterned Concrete)	SF	\$6.00		\$0
614	Traffic Signal	EA	\$300,000.00		\$0
<b>SUB TOTAL:</b>					<b>\$3,089,713</b>
	RIGHT-OF-WAY	SF	\$0.50	37,386	\$18,693
	Temporary Easement (10% of total ROW)	SF	\$0.15	3,739	\$561
<b>RIGHT-OF-WAY TOTAL:</b>					<b>\$19,254</b>
	Erosion Control	LS	5%	\$154,486	\$154,486
	Drainage	LS	5%	\$154,486	\$154,486
	Mobilization	LS	4%	\$123,589	\$123,589
	Surveying	LS	5%	\$154,486	\$154,486
	Pavement Marking & Signing	LS	5%	\$154,486	\$154,486
	Traffic Control (5%)	LS	5%	\$154,486	\$154,486
	Utilities (5%)	LS	5%	\$154,486	\$154,486
	FORCE ACCOUNTS AND MINOR CONTRACT REVISIONS	LS	2%	\$61,794	\$61,794
<b>SUB TOTAL:</b>					<b>\$4,221,263</b>
	DESIGN		8%	\$337,701	\$337,701
	CONSTRUCTION MANAGEMENT		10%	\$422,126	\$422,126
<b>SUB TOTAL:</b>					<b>\$4,981,091</b>
	GENERAL CONTINGENCY AND UNACCOUNTED ITEMS		15%	\$747,164	\$747,164
<b>CONSTRUCTION COST TOTAL 2013</b>					<b>\$5,728,254</b>

**Notes:**

- 1) Assume 8" for Hot Mix Asphalt Application rate is 110 lb/sq yd/inch
- 2) Assume 6" for Aggregate Base Course (Class 6). Application rate is 133 lb/cf.
- 3) Lighting is not included.



PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COSTS					
I-70 AT KIOWA-BENNETT ROAD - INTERCHANGE RECONSTRUCTION (ALTERNATIVE 1B)					
ITEM NO.	ITEM	UNIT	UNIT COST	ALTERNATIVE ITEM TOTAL	ALTERNATIVE TOTAL COST
201	Clearing and Grubbing	LS	\$10,000	1	\$10,000
202	Removal of Pavement	SY	\$3.50	13,888	\$48,610
202	Removal of Bridge	EA	\$75,000.00	1	\$75,000
203	Earthwork	CY	\$10.00	20,295	\$202,953
212	Seeding (Native)	ACRE	\$1,000.00	2.3	\$2,320
213	Mulching (Weed Free Straw)	ACRE	\$1,000.00	2.3	\$2,320
213	Mulch Tackifier	LB	\$2.00	464	\$928
304	Aggregate Base Course (Class 6)	TON	\$15.00	9,110	\$136,651
403	Hot Mix Asphalt (Grading SX) (100)	TON	\$80.00	3,397	\$271,799
412	Concrete Pavement (9 Inch) [I-70 Ramps & Intersections]	SY	\$40.00	22,721	\$908,858
412	Gravel Shoulder	TON	\$25.00		\$0
603	SH 79 Bridge over UPRR (60' wide x 190 lf)	SF	\$120.00		\$0
603	SH 79 Bridge Over I-70 (81' wide x 228 lf)	SF	\$120.00		\$0
603	Kiowa-Bennett Bridge Over I-70 (52' wide x 228 lf)	SF	\$120.00	11,856	\$1,422,720
603	Other Structures	SF	\$200.00		\$0
608	Concrete Sidewalk	SY	\$40.00		\$0
608	Concrete Curb Ramp	SY	\$75.00		\$0
609	Curb and Gutter Type 2 (Section I-B)	LF	\$18.00		\$0
609	Curb and Gutter Type 2 (Section II-B)	LF	\$22.00		\$0
610	Median Landscaping (native grasses/non irrigated)	SF	\$2.00		\$0
610	Median Cover Material (Patterned Concrete)	SF	\$6.00		\$0
614	Traffic Signal	EA	\$300,000.00		\$0
<b>SUB TOTAL:</b>					<b>\$3,082,159</b>
	RIGHT-OF-WAY	SF	\$0.50	37,386	\$18,693
	Temporary Easement (10% of total ROW)	SF	\$0.15	3,739	\$561
<b>RIGHT-OF-WAY TOTAL:</b>					<b>\$19,254</b>
	Erosion Control	LS	5%	\$154,108	\$154,108
	Drainage	LS	5%	\$154,108	\$154,108
	Mobilization	LS	4%	\$123,286	\$123,286
	Surveying	LS	5%	\$154,108	\$154,108
	Pavement Marking & Signing	LS	5%	\$154,108	\$154,108
	Traffic Control (5%)	LS	5%	\$154,108	\$154,108
	Utilities (5%)	LS	5%	\$154,108	\$154,108
	FORCE ACCOUNTS AND MINOR CONTRACT REVISIONS	LS	2%	\$61,643	\$61,643
<b>SUB TOTAL:</b>					<b>\$4,210,991</b>
	DESIGN		8%	\$336,879	\$336,879
	CONSTRUCTION MANAGEMENT		10%	\$421,099	\$421,099
<b>SUB TOTAL:</b>					<b>\$4,968,969</b>
	GENERAL CONTINGENCY AND UNACCOUNTED ITEMS		15%	\$745,345	\$745,345
<b>CONSTRUCTION COST TOTAL 2013</b>					<b>\$5,714,314</b>

**Notes:**

- 1) Assume 8" for Hot Mix Asphalt Application rate is 110 lb/sq yd/inch
- 2) Assume 6" for Aggregate Base Course (Class 6). Application rate is 133 lb/cf.
- 3) Lighting is not included.

PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COSTS					
I-70 AT KIOWA-BENNETT ROAD - FRONTAGE ROAD CONSTRUCTION (ALTERNATIVE 2)					
ITEM NO.	ITEM	UNIT	UNIT COST	ALTERNATIVE ITEM TOTAL	ALTERNATIVE TOTAL COST
201	Clearing and Grubbing	LS	\$10,000	1	\$10,000
202	Removal of Pavement	SY	\$3.50	25,933	\$90,765
202	Removal of Bridge	EA	\$75,000.00	2	\$150,000
203	Earthwork	CY	\$10.00	67,017	\$670,169
212	Seeding (Native)	ACRE	\$1,000.00	4.1	\$4,101
213	Mulching (Weed Free Straw)	ACRE	\$1,000.00	4.1	\$4,101
213	Mulch Tackifier	LB	\$2.00	820	\$1,641
304	Aggregate Base Course (Class 6)	TON	\$15.00	15,041	\$225,617
403	Hot Mix Asphalt (Grading SX) (100)	TON	\$80.00	3,397	\$271,799
412	Concrete Pavement (9 Inch) [I-70 Ramps & Intersections]	SY	\$40.00	42,541	\$1,701,645
412	Gravel Shoulder	TON	\$25.00		\$0
603	SH 79 Bridge over UPRR (60' wide x 190 lf)	SF	\$120.00		\$0
603	SH 79 Bridge Over I-70 (81' wide x 228 lf)	SF	\$120.00		\$0
603	Kiowa-Bennett Bridge Over I-70 (52' wide x 228 lf)	SF	\$120.00	11,856	\$1,422,720
603	I-70 Frontage Road Bridges (40' wide x 550 lf) X 2 Bridges	SF	\$120.00	44,000	\$5,280,000
608	Concrete Sidewalk	SY	\$40.00		\$0
608	Concrete Curb Ramp	SY	\$75.00		\$0
609	Curb and Gutter Type 2 (Section I-B)	LF	\$18.00		\$0
609	Curb and Gutter Type 2 (Section II-B)	LF	\$22.00		\$0
610	Median Landscaping (native grasses/non irrigated)	SF	\$2.00		\$0
610	Median Cover Material (Patterned Concrete)	SF	\$6.00		\$0
614	Traffic Signal	EA	\$300,000.00		\$0
<b>SUB TOTAL:</b>					<b>\$9,832,557</b>
	RIGHT-OF-WAY	SF	\$0.50	1,041,530	\$520,765
	Temporary Easement (10% of total ROW)	SF	\$0.15	104,153	\$15,623
<b>RIGHT-OF-WAY TOTAL:</b>					<b>\$536,388</b>
	Erosion Control	LS	5%	\$491,628	\$491,628
	Drainage	LS	5%	\$491,628	\$491,628
	Mobilization	LS	4%	\$393,302	\$393,302
	Surveying	LS	5%	\$491,628	\$491,628
	Pavement Marking & Signing	LS	5%	\$491,628	\$491,628
	Traffic Control (5%)	LS	5%	\$491,628	\$491,628
	Utilities (5%)	LS	5%	\$491,628	\$491,628
	FORCE ACCOUNTS AND MINOR CONTRACT REVISIONS	LS	2%	\$196,651	\$196,651
<b>SUB TOTAL:</b>					<b>\$13,908,666</b>
	DESIGN		8%	\$1,112,693	\$1,112,693
	CONSTRUCTION MANAGEMENT		10%	\$1,390,867	\$1,390,867
<b>SUB TOTAL:</b>					<b>\$16,412,225</b>
	GENERAL CONTINGENCY AND UNACCOUNTED ITEMS		15%	\$2,461,834	\$2,461,834
<b>CONSTRUCTION COST TOTAL 2013</b>					<b>\$18,874,059</b>

**Notes:**

- 1) Assume 8" for Hot Mix Asphalt Application rate is 110 lb/sq yd/inch
- 2) Assume 6" for Aggregate Base Course (Class 6). Application rate is 133 lb/cf.
- 3) Lighting is not included.

PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COSTS					
I-70 AT KIOWA-BENNETT ROAD - NEW ROADWAY ALIGNMENT (ALTERNATIVE 4)					
ITEM NO.	ITEM	UNIT	UNIT COST	ALTERNATIVE ITEM TOTAL	ALTERNATIVE TOTAL COST
201	Clearing and Grubbing	LS	\$40,000	1	\$40,000
202	Removal of Pavement	SY	\$3.50	25,933	\$90,765
202	Removal of Bridge	EA	\$75,000.00	2	\$150,000
203	Earthwork	CY	\$10.00	50,284	\$502,845
212	Seeding (Native)	ACRE	\$1,000.00	4.0	\$4,000
213	Mulching (Weed Free Straw)	ACRE	\$1,000.00	4.0	\$4,000
213	Mulch Tackifier	LB	\$2.00	800	\$1,600
304	Aggregate Base Course (Class 6)	TON	\$15.00	22,571	\$338,572
403	Hot Mix Asphalt (Grading SX) (100)	TON	\$80.00	24,388	\$1,951,019
412	Concrete Pavement (9 Inch) [I-70 Ramps & Intersections]	SY	\$40.00	20,000	\$800,000
412	Gravel Shoulder	TON	\$25.00	455	\$11,372
603	SH 79 Bridge over UPRR (60' wide x 190 lf)	SF	\$120.00		\$0
603	SH 79 Bridge Over I-70 (81' wide x 228 lf)	SF	\$120.00		\$0
603	Kiowa-Bennett Bridge Over I-70 (52' wide x 228 lf)	SF	\$120.00	11,856	\$1,422,720
603	Concrete Box Culvert (16x8)(3-Sided)(Precast)	LF	\$2,000.00	76	\$152,000
608	Concrete Sidewalk	SY	\$40.00		\$0
608	Concrete Curb Ramp	SY	\$75.00		\$0
609	Curb and Gutter Type 2 (Section I-B)	LF	\$18.00		\$0
609	Curb and Gutter Type 2 (Section II-B)	LF	\$22.00		\$0
610	Median Landscaping (native grasses/non irrigated)	SF	\$2.00		\$0
610	Median Cover Material (Patterned Concrete)	SF	\$6.00		\$0
614	Traffic Signal	EA	\$300,000.00		\$0
<b>SUB TOTAL:</b>					<b>\$5,468,891</b>
	RIGHT-OF-WAY	SF	\$0.50	1,397,240	\$698,620
	Temporary Easement (10% of total ROW)	SF	\$0.15	139,724	\$20,959
<b>RIGHT-OF-WAY TOTAL:</b>					<b>\$719,579</b>
	Erosion Control	LS	5%	\$273,445	\$273,445
	Drainage	LS	5%	\$273,445	\$273,445
	Mobilization	LS	4%	\$218,756	\$218,756
	Surveying	LS	5%	\$273,445	\$273,445
	Pavement Marking & Signing	LS	5%	\$273,445	\$273,445
	Traffic Control (5%)	LS	5%	\$273,445	\$273,445
	Utilities (5%)	LS	5%	\$273,445	\$273,445
	FORCE ACCOUNTS AND MINOR CONTRACT REVISIONS	LS	2%	\$109,378	\$109,378
<b>SUB TOTAL:</b>					<b>\$8,157,271</b>
	DESIGN		8%	\$652,582	\$652,582
	CONSTRUCTION MANAGEMENT		10%	\$815,727	\$815,727
<b>SUB TOTAL:</b>					<b>\$9,625,580</b>
	GENERAL CONTINGENCY AND UNACCOUNTED ITEMS		15%	\$1,443,837	\$1,443,837
<b>CONSTRUCTION COST TOTAL 2013</b>					<b>\$11,069,417</b>

**Notes:**

- 1) Assume 8" for Hot Mix Asphalt Application rate is 110 lb/sq yd/inch
- 2) Assume 6" for Aggregate Base Course (Class 6). Application rate is 133 lb/cf.
- 3) Lighting is not included.

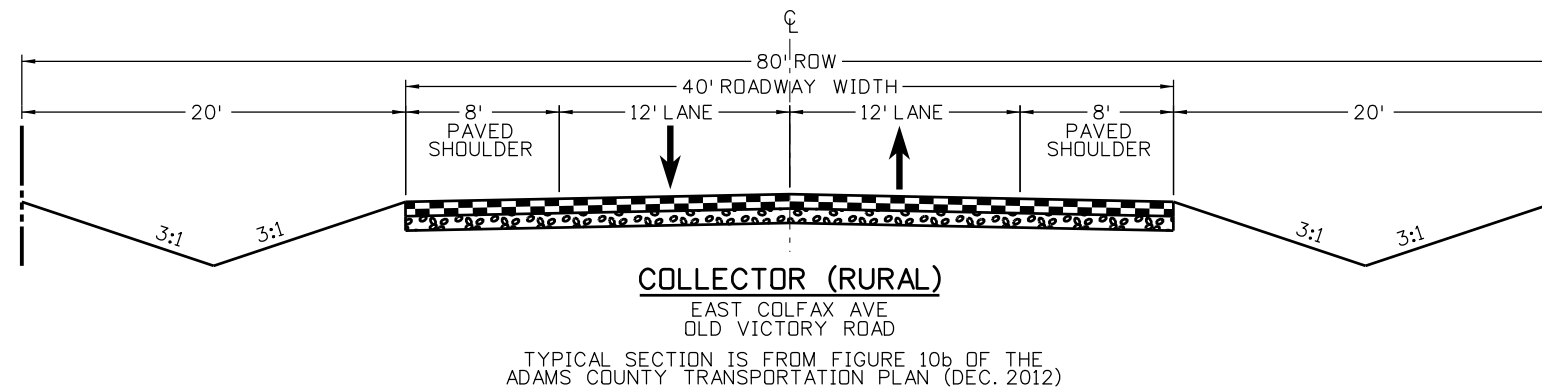
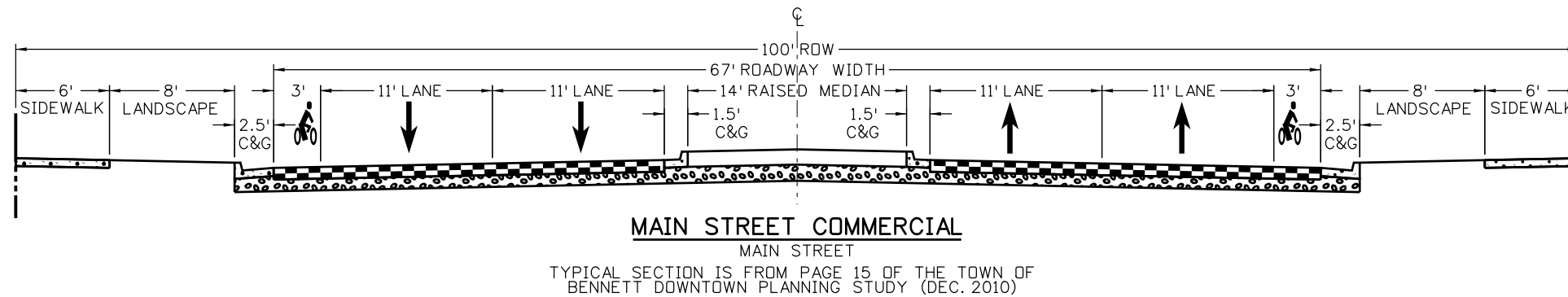
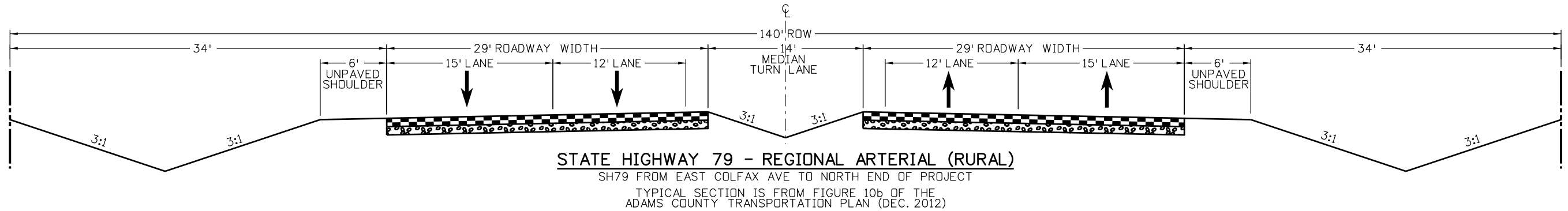
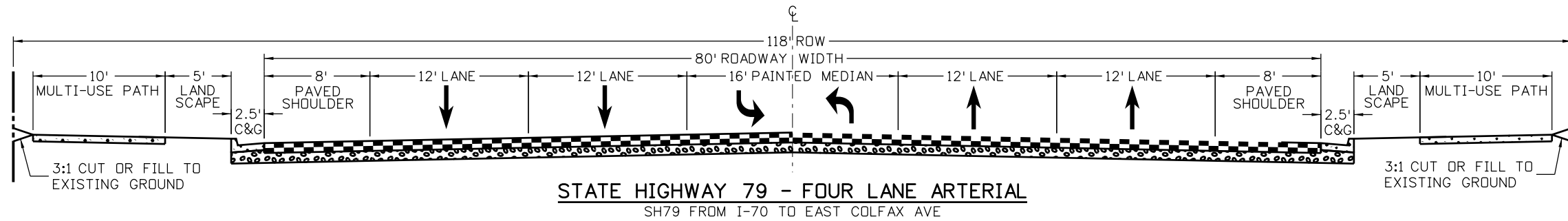




**APPENDIX E**  
**RECOMMENDED ALTERNATIVE CONCEPTUAL  
PLAN SET**







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Unit Information      Unit Leader Initials	
<b>ATKINS</b> 4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	

Sheet Revisions		
Date:	Comments	Init.

**Colorado Department of Transportation**  
7328 S. Revere Parkway  
Suite 204A  
Centennial, CO 80112  
Phone: 303-365-7234 FAX: 303-790-1037

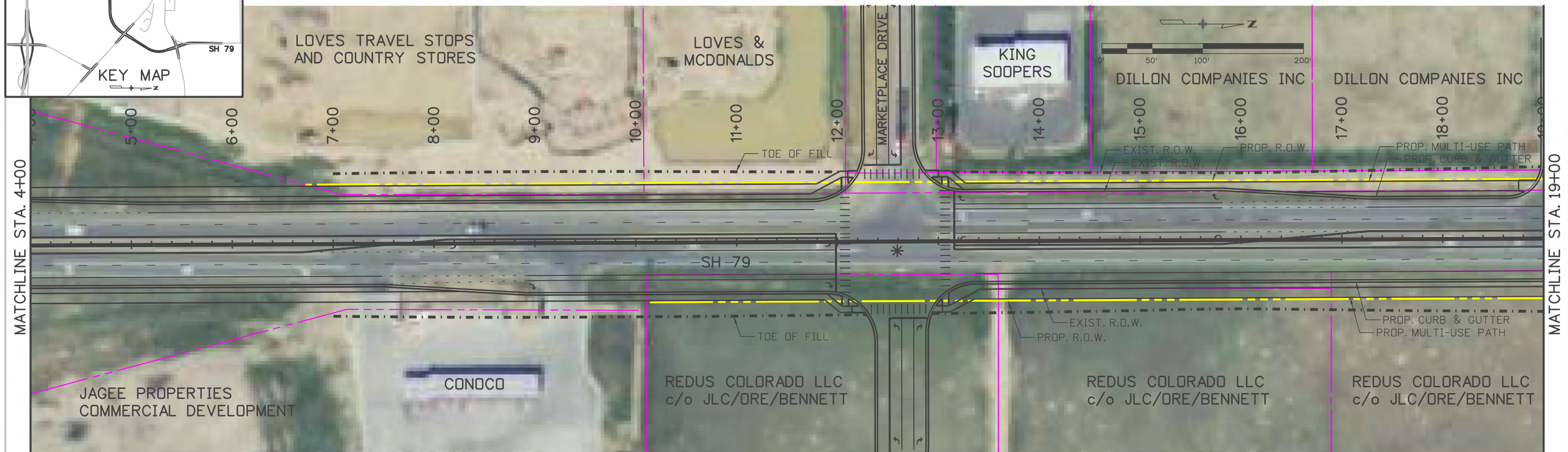
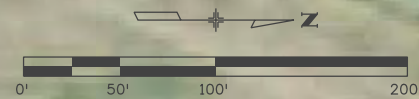
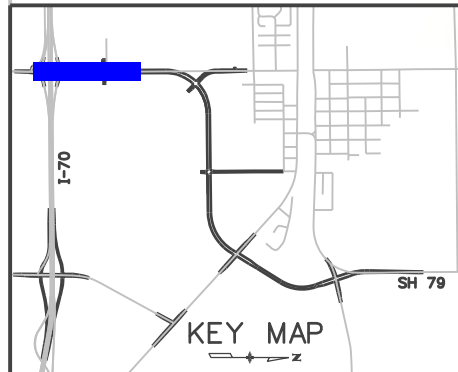
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Revised:
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Detailer:	LDL	Numbers	
Sheet Subset: TYP SECT	Subset Sheets:	01 of 01	

<b>Project No./Code</b>
Project Number
Code
Sheet Number <b>02</b>





MATCHLINE STA. 4+00

MATCHLINE STA. 4+00

MATCHLINE STA. 19+00

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Unit Information	Unit Leader Initials
<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

Sheet Revisions		
Date:	Comments	Init.

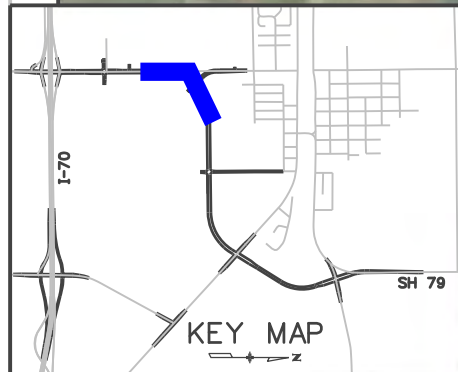
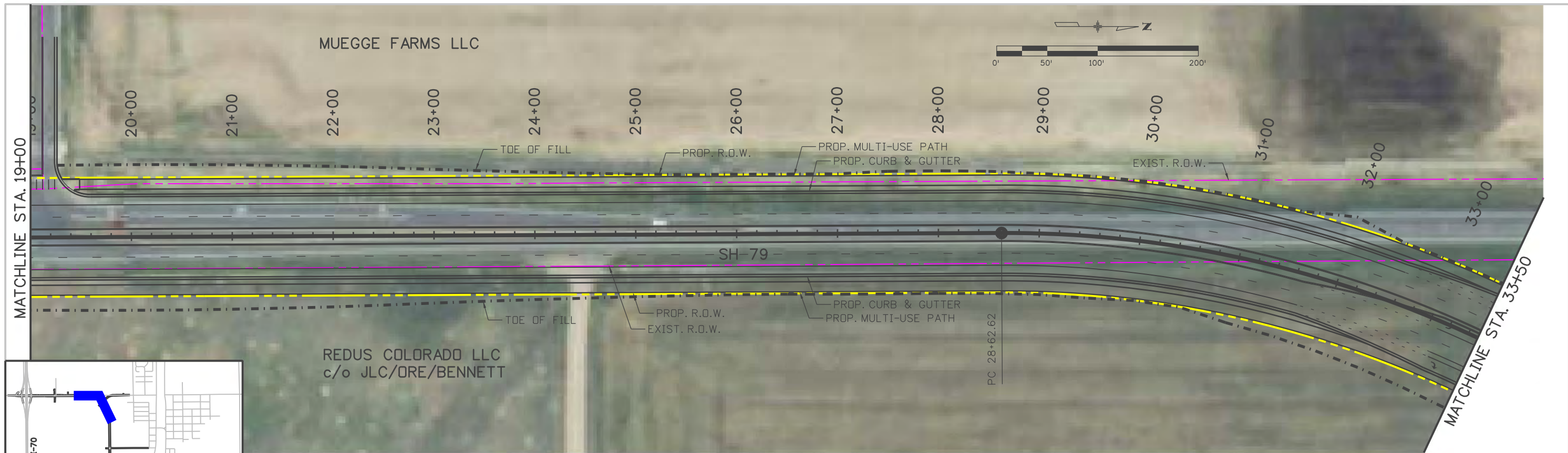
**Colorado Department of Transportation**  
 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037

**Region 1** **DRG**

<b>As Constructed</b>
No Revisions:
Revised:
Void:

<b>SH 79 PLAN SHEETS ALTERNATIVE 1</b>			
Designer:	BCBS	Structure Numbers	
Detailer:	LDL	Subset Sheets:	01 of 12
Sheet Subset:	PLAN		

<b>Project No./Code</b>
Project Number
Code
Sheet Number <b>03</b>



Print Date: 10/28/2013	
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Horiz. Scale: 1:100      Vert. Scale: As Noted	
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4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	

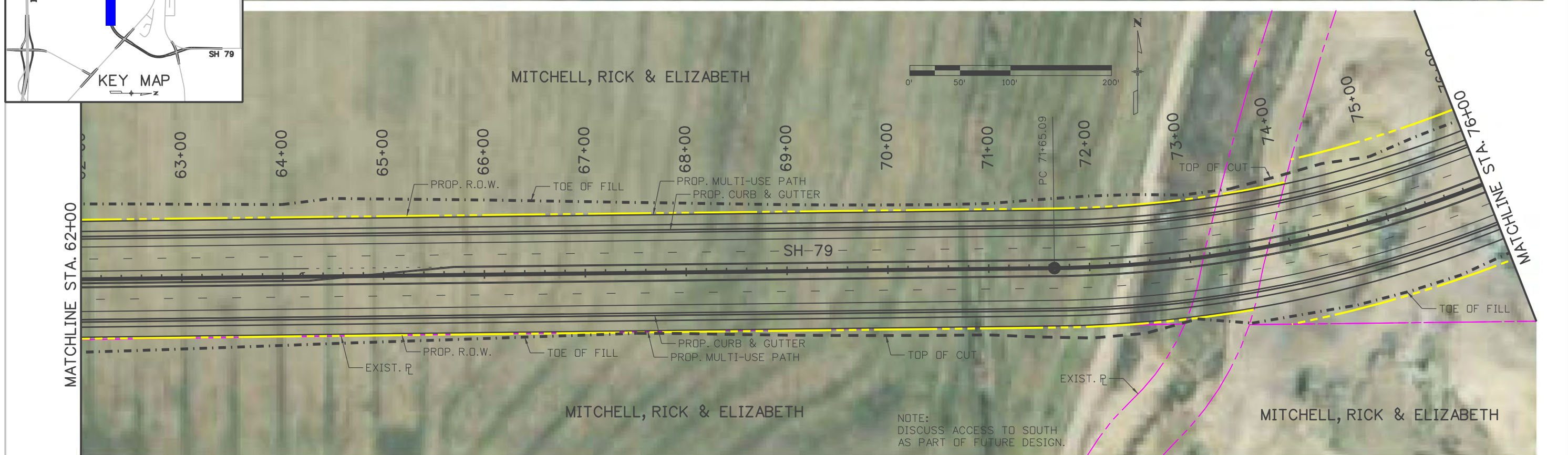
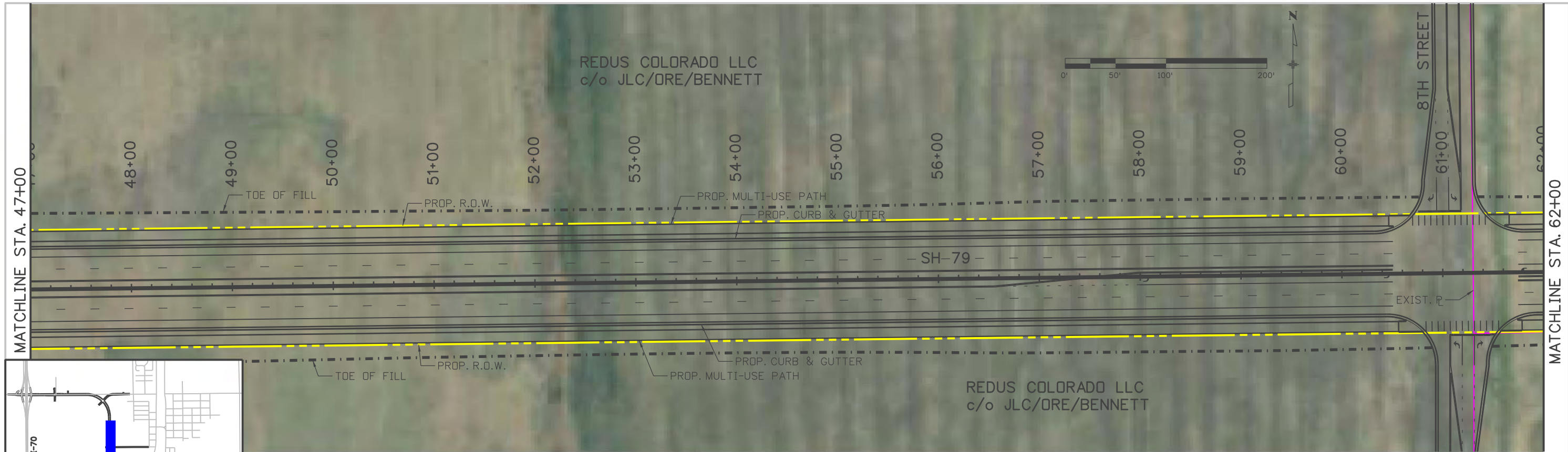
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**Colorado Department of Transportation**  
  
 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037  
**Region 1**      **DRG**

<b>As Constructed</b>
No Revisions:
Revised:
Void:

<b>SH 79 PLAN SHEETS ALTERNATIVE 1</b>			
Designer:	BCBS	Structure Numbers	
Detailer:	LDL	Subset Sheets:	02 of 12
Sheet Subset:	PLAN		

<b>Project No./Code</b>
Project Number
Code
Sheet Number <b>04</b>



Print Date: 10/28/2013
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<b>ATKINS</b> 4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

Sheet Revisions		
Date:	Comments	Init.

**Colorado Department of Transportation**  
 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037

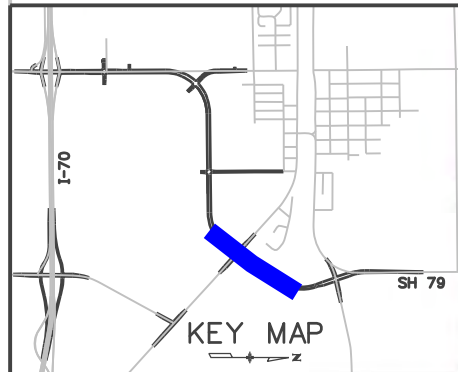
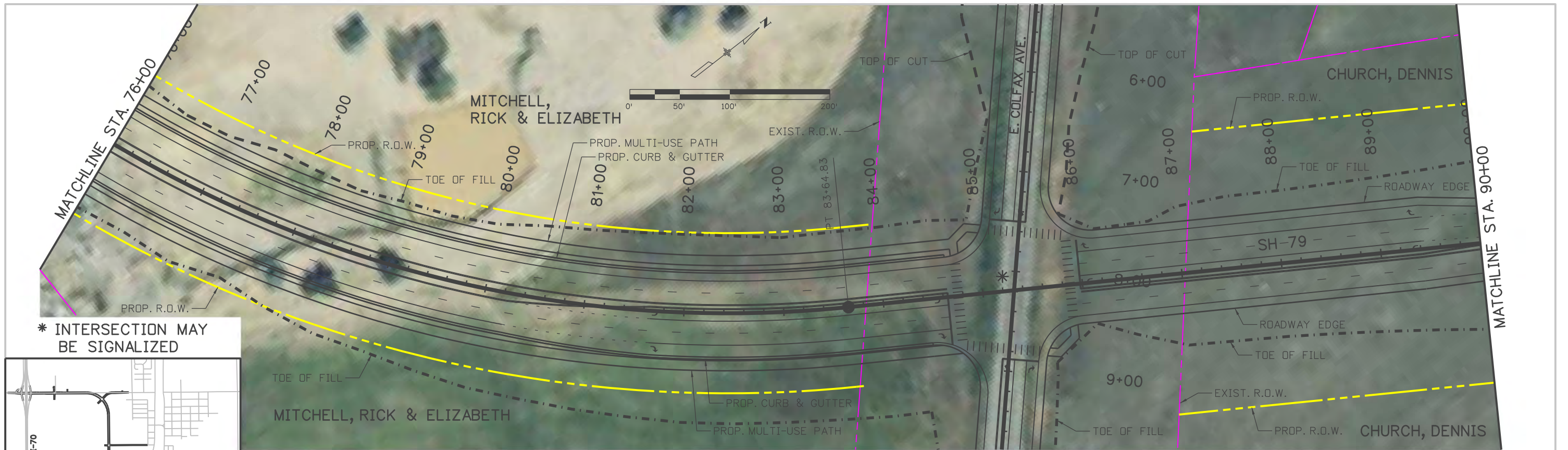
**Region 1**      **DRG**




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No Revisions:
Revised:
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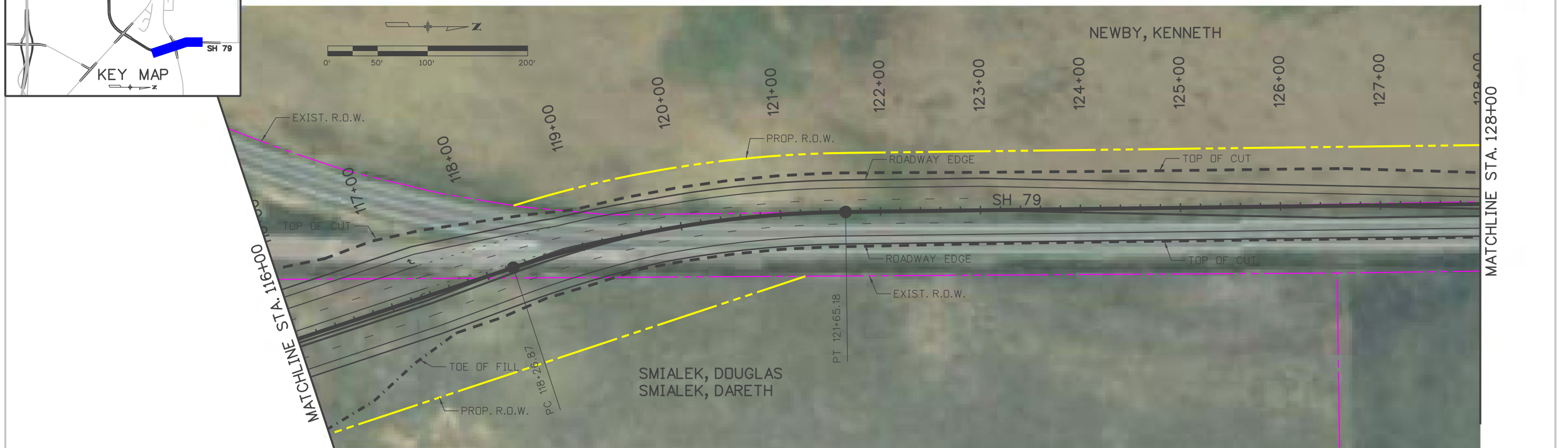
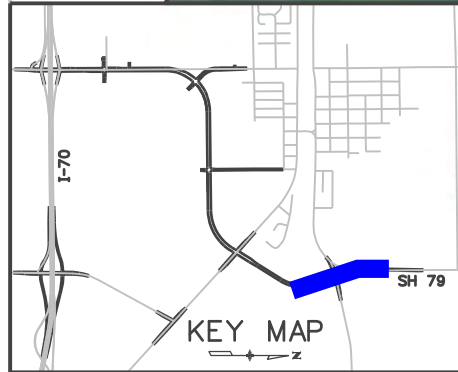
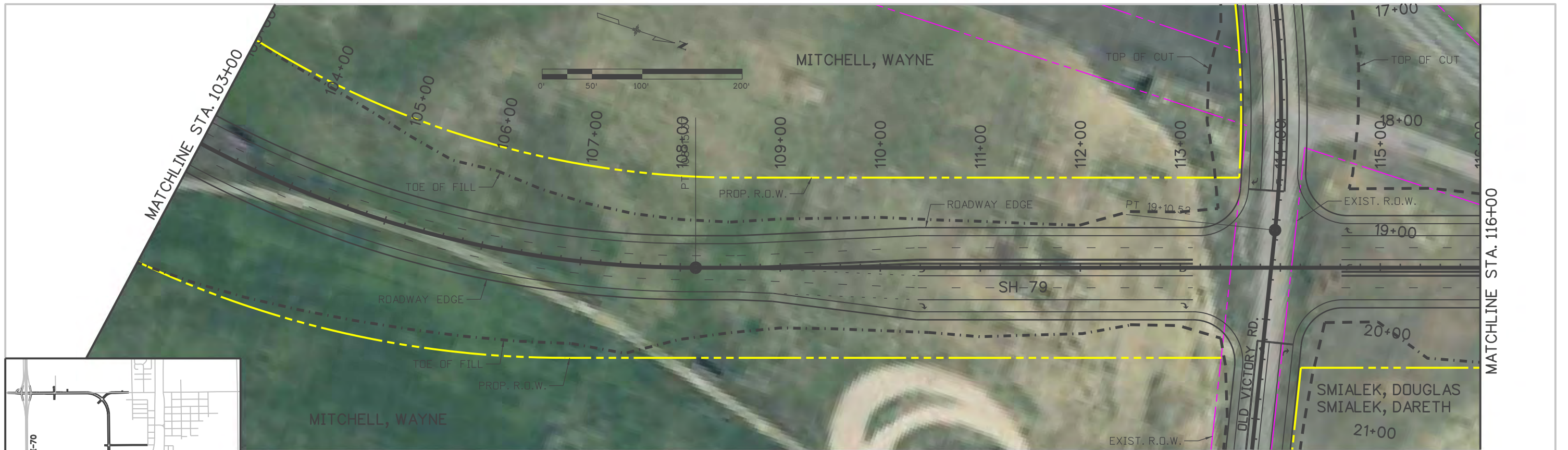
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Detailer:	LDL	Subset Sheets:	03 of 12
Sheet Subset:	PLAN		

<b>Project No./Code</b>
Project Number
Code
Sheet Number <b>05</b>

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Print Date: 10/28/2013	<b>Sheet Revisions</b>			<b>Colorado Department of Transportation</b>		<b>As Constructed</b>		<b>SH 79 PLAN SHEETS</b>		<b>Project No./Code</b>	
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Unit Information    Unit Leader Initials				Region 1    DRG		Void:		Detailer: LDL	Subset Sheets: 04 of 12	Sheet Number <b>06</b>	
 4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276								Sheet Subset: PLAN			



Print Date: 10/29/2013	0000
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Unit Information      Unit Leader Initials	
<b>ATKINS</b> 4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	

Sheet Revisions		
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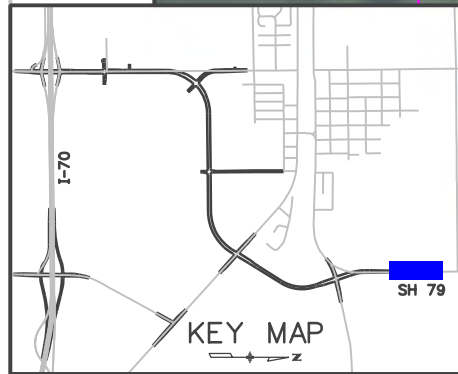
Colorado Department of Transportation  
 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037

**Region 1**      **DRG**

<b>As Constructed</b>
No Revisions:
Revised:
Void:

SH 79 PLAN SHEETS ALTERNATIVE 1			
Designer:	BCBS	Structure Numbers	
Detailer:	LDL	Subset Sheets:	05 of 12
Sheet Subset:	PLAN		

<b>Project No./Code</b>
Project Number
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Sheet Revisions		
Date:	Comments	Init.

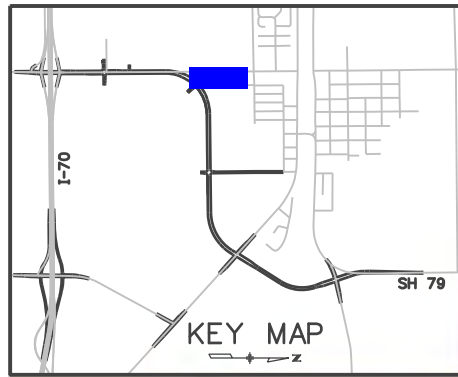
Colorado Department of Transportation  
 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
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**Region 1** **DRG**

<b>As Constructed</b>
No Revisions:
Revised:
Void:

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Designer:	BCBS	Structure Numbers	
Detailer:	LDL	Subset Sheets:	06 of 12
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<b>Project No./Code</b>	
Project Number	
Code	
Sheet Number	<b>08</b>



Print Date: 10/29/2013	
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4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	

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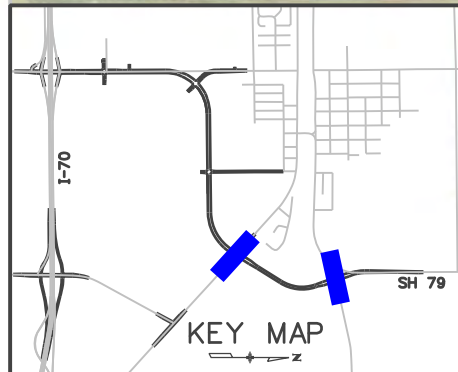
**Colorado Department of Transportation**  
 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037  
**Region 1**      **DRG**

<b>As Constructed</b>
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Designer:	BCBS	Structure Numbers	
Detailer:	LDL	Subset Sheets:	07 of 12
Sheet Subset:	PLAN		

<b>Project No./Code</b>
Project Number
Code
Sheet Number <b>09</b>

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\* INTERSECTION MAY BE SIGNALIZED



Print Date: 10/29/2013	0000
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<b>ATKINS</b> 4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276	

Sheet Revisions		
Date:	Comments	Init.

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 7328 S. Revere Parkway  
 Suite 204A  
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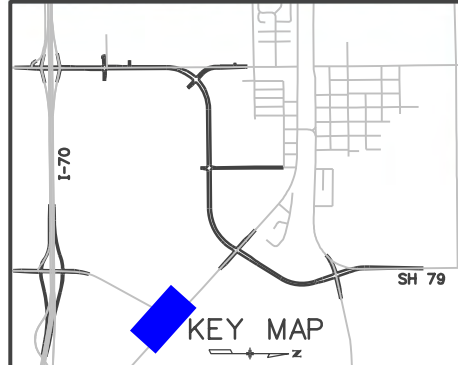
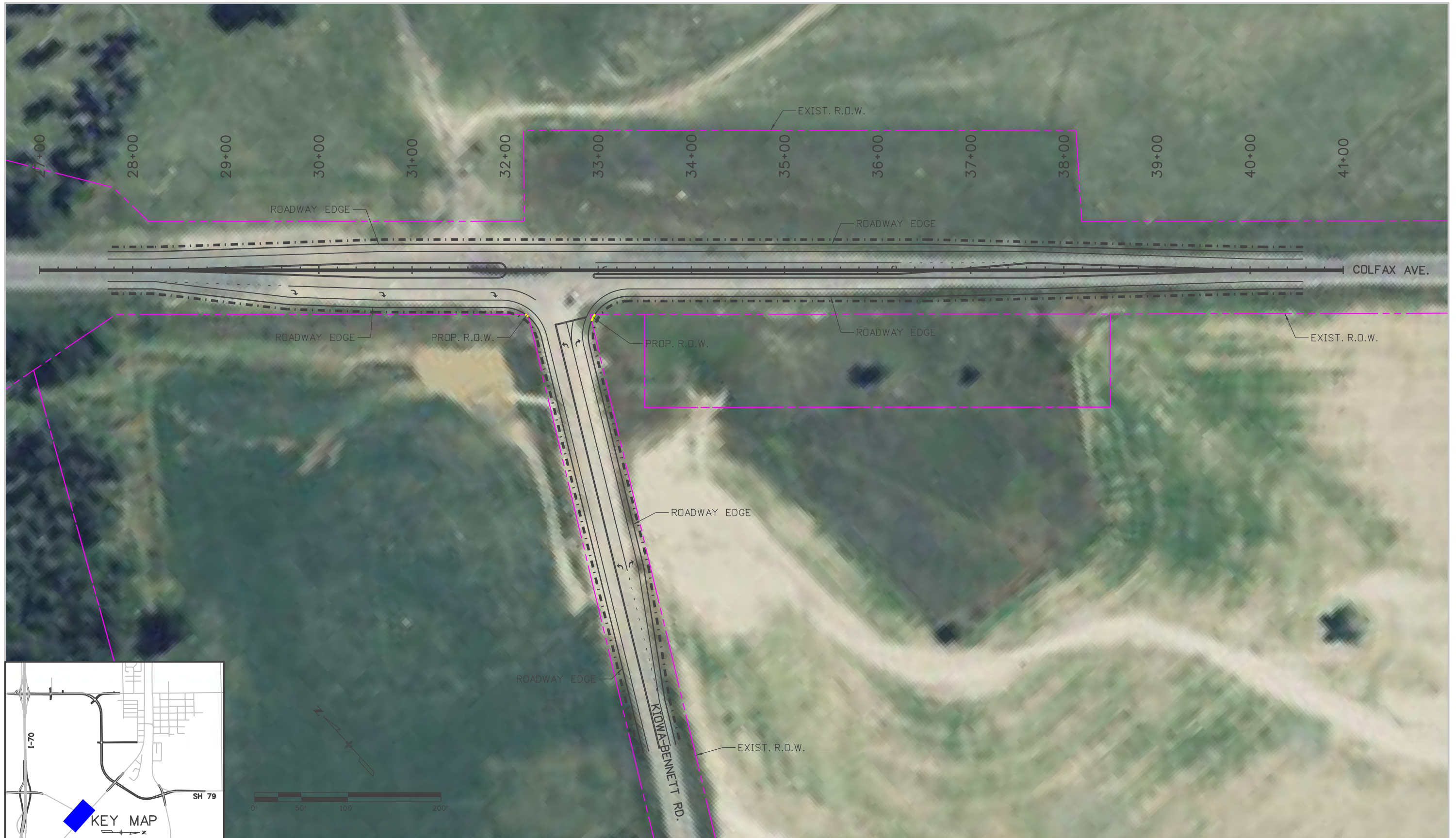
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No Revisions:
Revised:
Void:

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Designer:	BCBS	Structure Numbers	
Detailer:	LDL	Subset Sheets:	08 of 12
Sheet Subset:	PLAN		

<b>Project No./Code</b>
Project Number
Code
Sheet Number <b>10</b>





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Unit Information	Unit Leader Initials
<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation  
 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037

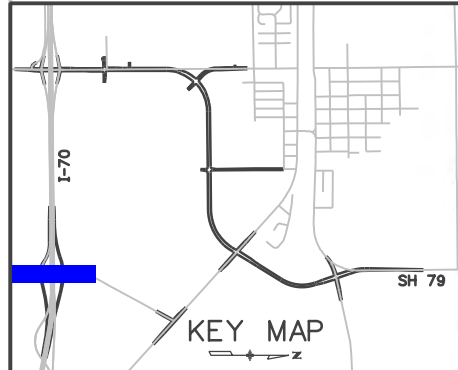
**Region 1** **DRG**

<b>As Constructed</b>
No Revisions:
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Void:

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Designer:	BCBS	Structure Numbers
Detailer:	LDL	
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<b>Project No./Code</b>
Project Number
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Sheet Number <b>11</b>

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Unit Information	Unit Leader Initials
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Sheet Revisions		
Date:	Comments	Init.

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**Region 1** **DRG**

<b>As Constructed</b>
No Revisions:
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Void:

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Designer:	BCBS	Structure Numbers	
Detailer:	LDL	Subset Sheets:	10 of 12
Sheet Subset:	PLAN		

<b>Project No./Code</b>
Project Number
Code
Sheet Number <b>12</b>

CALISTO, JOE & MARY ANN

PROP. R.O.W.

EXIST. R.O.W.

ROADWAY EDGE

ROADWAY EDGE

I70 WB

I70 EB

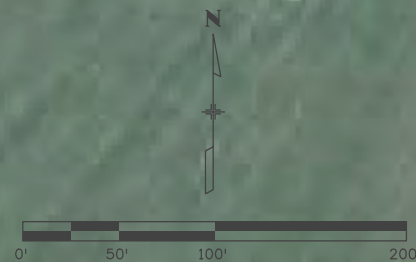
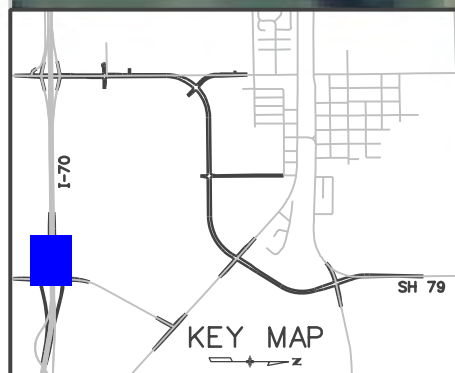
ROADWAY EDGE

ROADWAY EDGE

EXIST. R.O.W.


JACOB, PEGGY L

KIOWA-BENNETT RD.



Print Date: 10/17/2013	
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Horiz. Scale: 1:100	Vert. Scale: As Noted
Unit Information	Unit Leader Initials
<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

Sheet Revisions		
Date:	Comments	Init.

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**Region 1** **DRG**

<b>As Constructed</b>
No Revisions:
Revised:
Void:

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Designer: BCBS	Structure Numbers	
Detailer: LDL		
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<b>Project No./Code</b>
Project Number
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Sheet Number <b>13</b>

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Print Date: 10/17/2013  
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 Unit Information Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

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**Region 1** **DRG**

**As Constructed**  
 No Revisions:  
 Revised:  
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 PLAN SHEET (EAST)  
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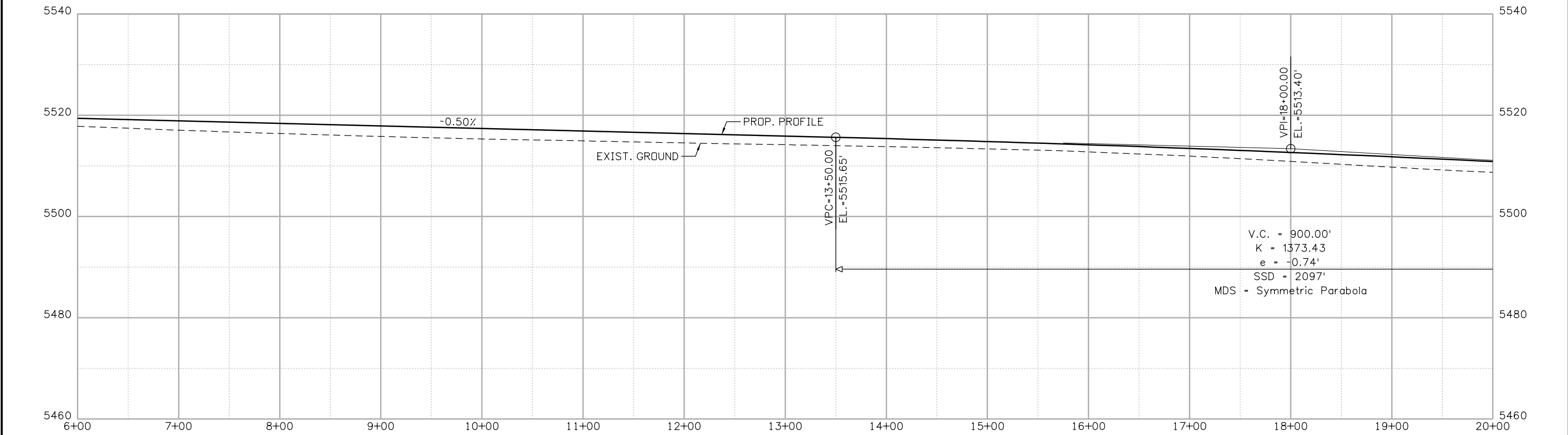
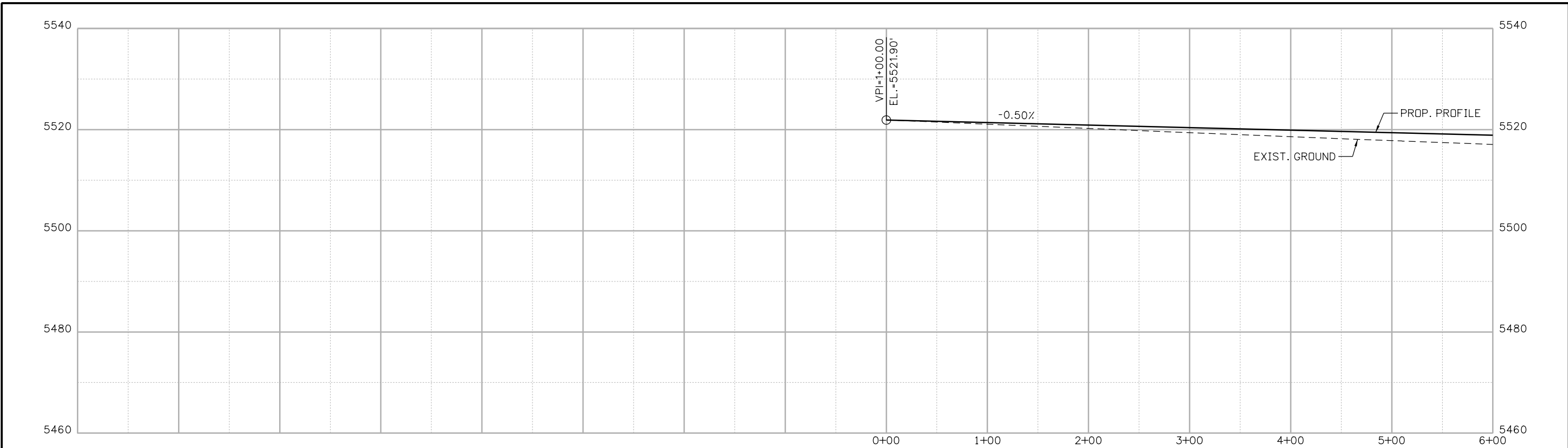
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**Project No./Code**  
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**ATKINS**  
 4601 DTC Boulevard, Suite 700  
 Denver, CO 80237  
 Phone: (303) 221-7275 Fax: (303) 221-7276

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Unit Information	Unit Leader Initials
<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

Sheet Revisions		
Date:	Comments	Init.

**Colorado Department of Transportation**  
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 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037

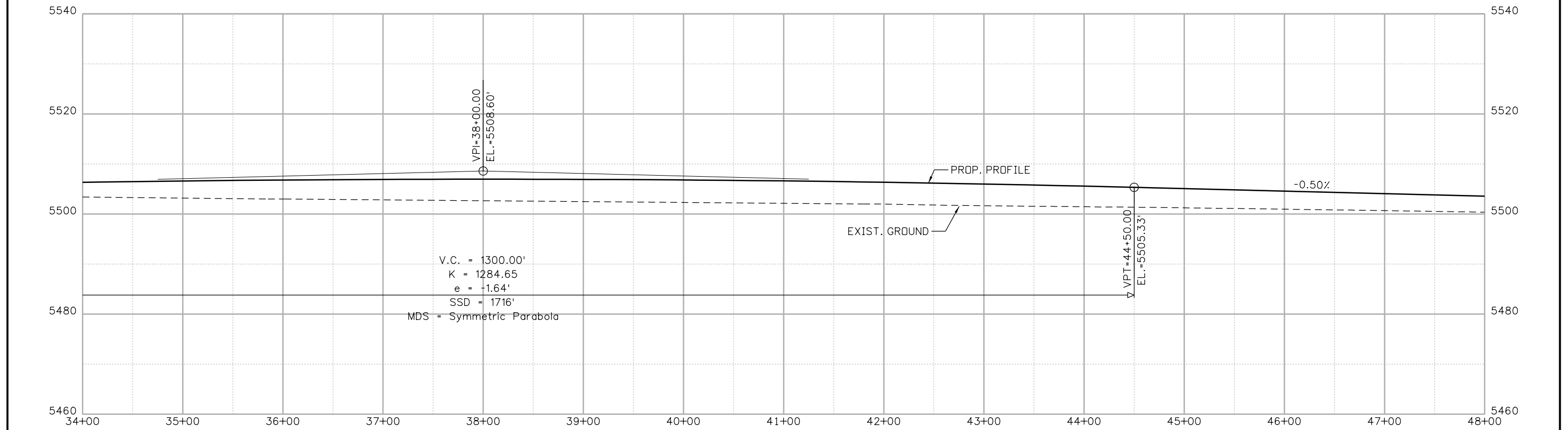
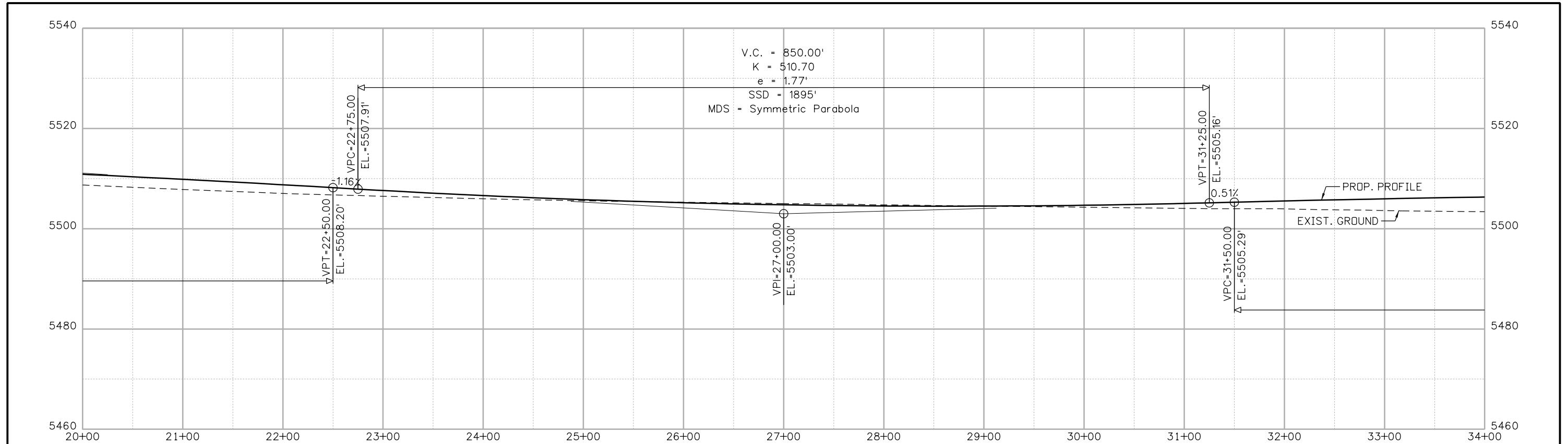
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<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

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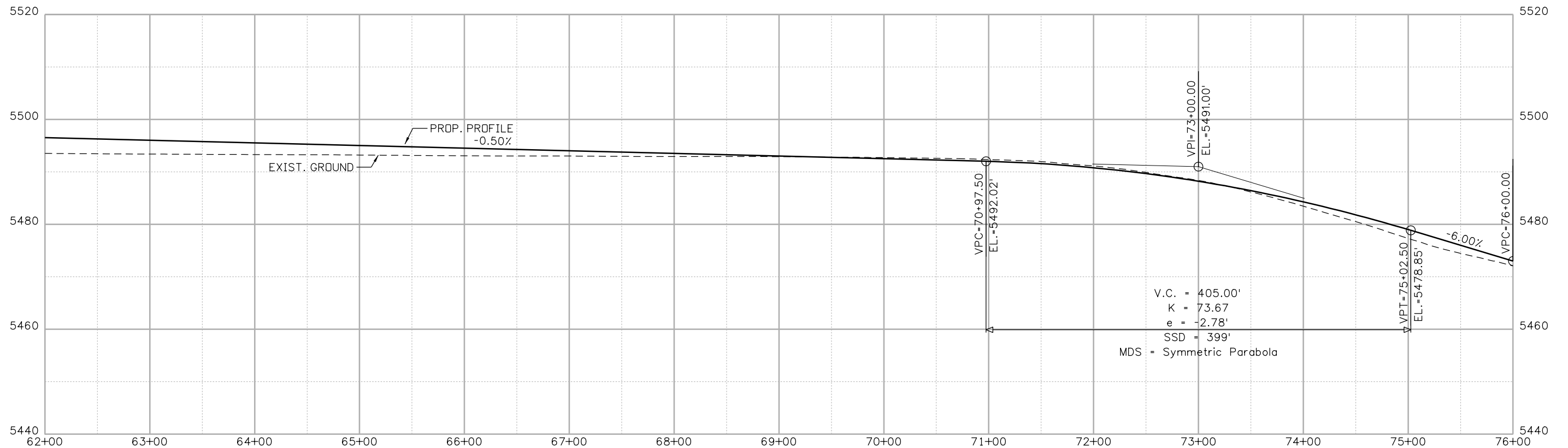
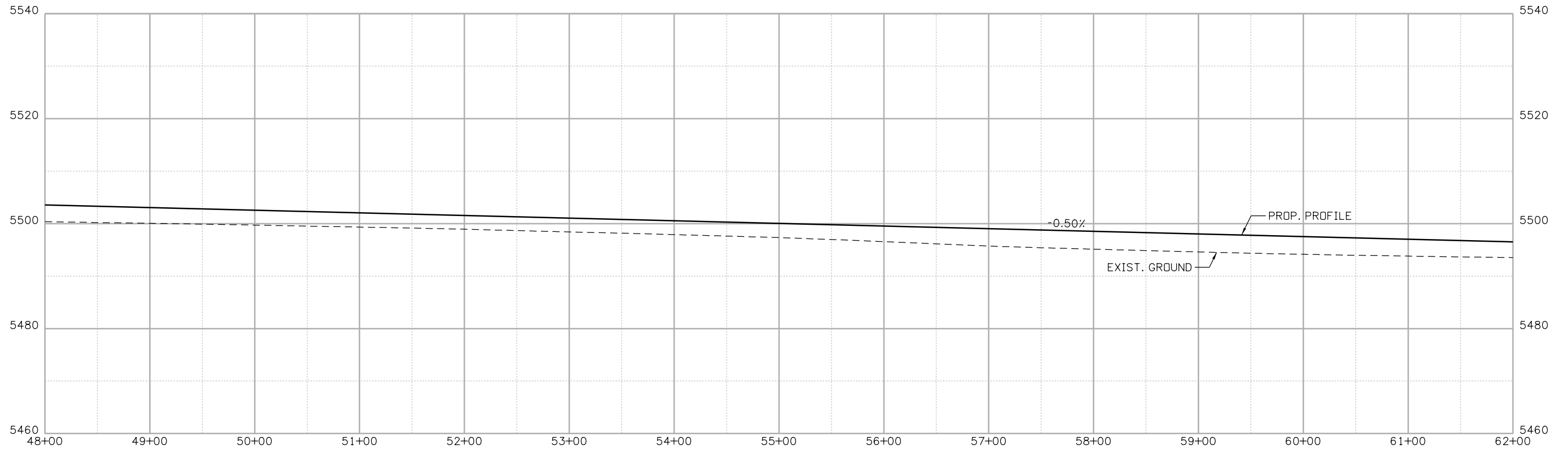
**Colorado Department of Transportation**  
 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037

**Region 1** **DRG**

<b>As Constructed</b>
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Revised:
Void:

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Detailer: LDL	Subset Sheets: 02 of 12	
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<b>Project No./Code</b>
Project Number
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Sheet Number <b>16</b>



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Unit Information	Unit Leader Initials
<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

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Date:	Comments	Init.

Colorado Department of Transportation  
 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
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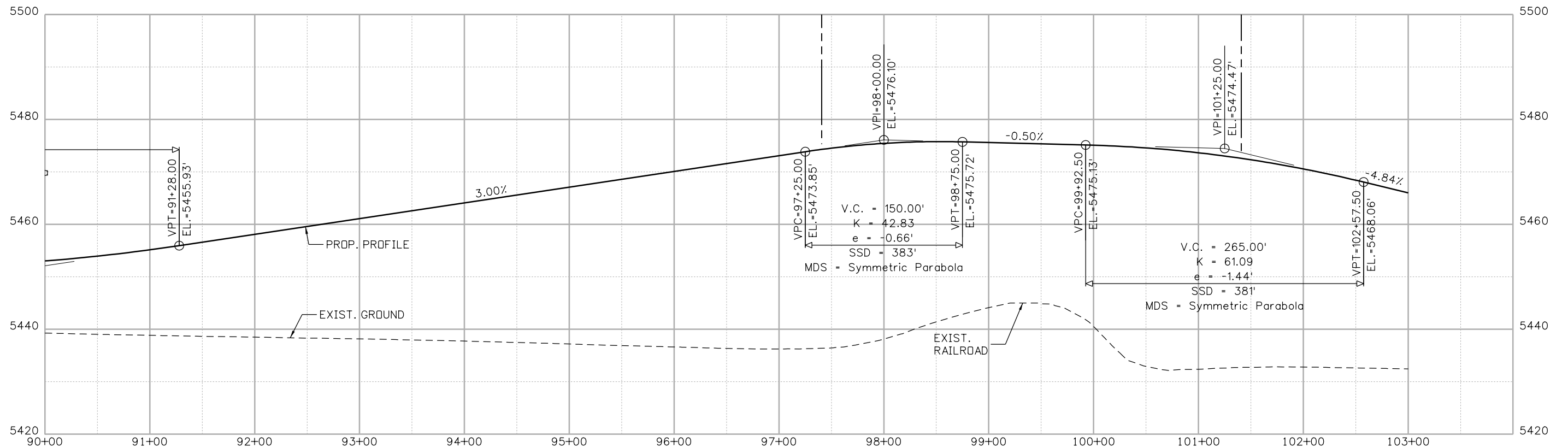
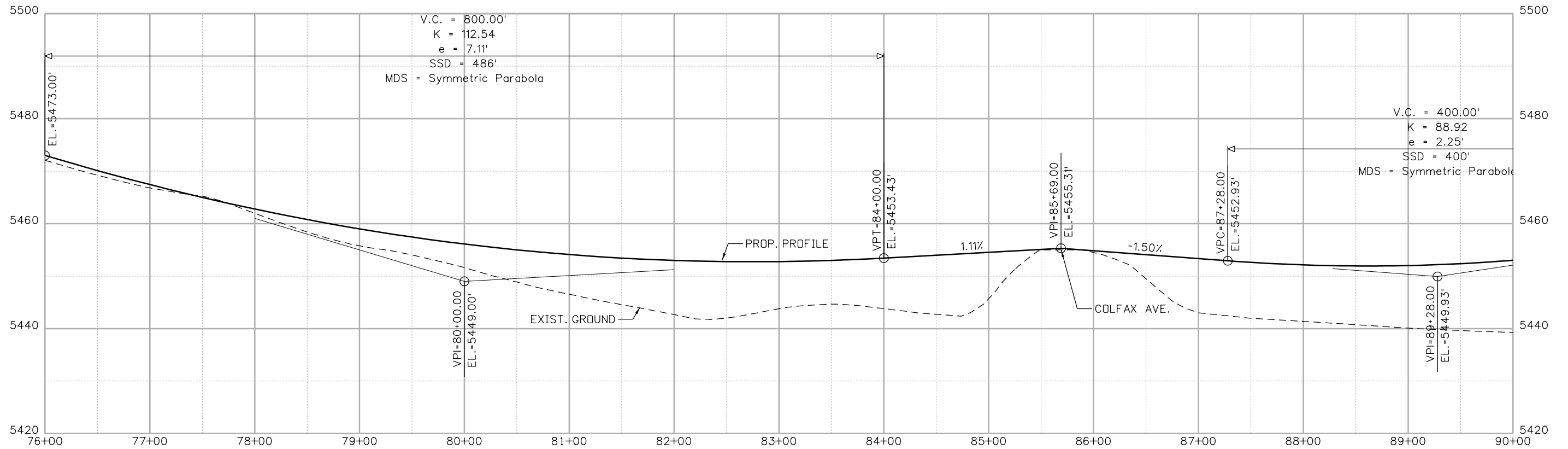
**Region 1** **DRG**

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<b>Project No./Code</b>
Project Number
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Print Date: 10/10/2013  
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 Unit Information Unit Leader Initials  
**ATKINS** 4601 DTC Boulevard, Suite 700  
 Denver, CO 80237  
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Sheet Revisions		
Date:	Comments	Init.

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 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037  
**Region 1** **DRG**

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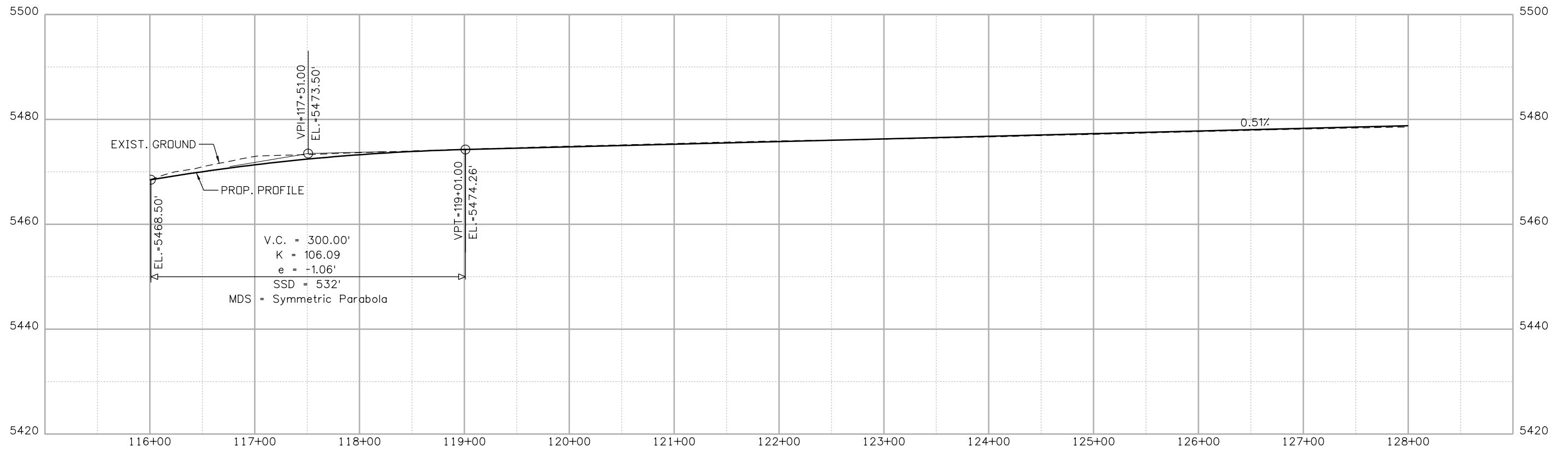
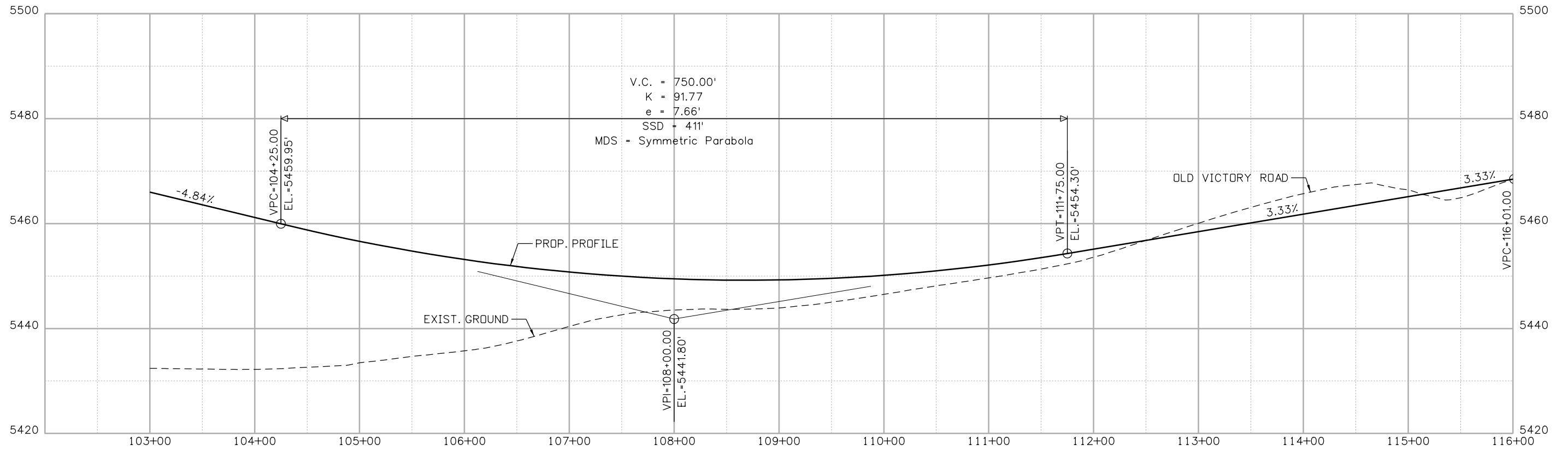
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Print Date: 10/10/2013	
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Unit Information	Unit Leader Initials
<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

Sheet Revisions		
Date:	Comments	Init.

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 Suite 204A  
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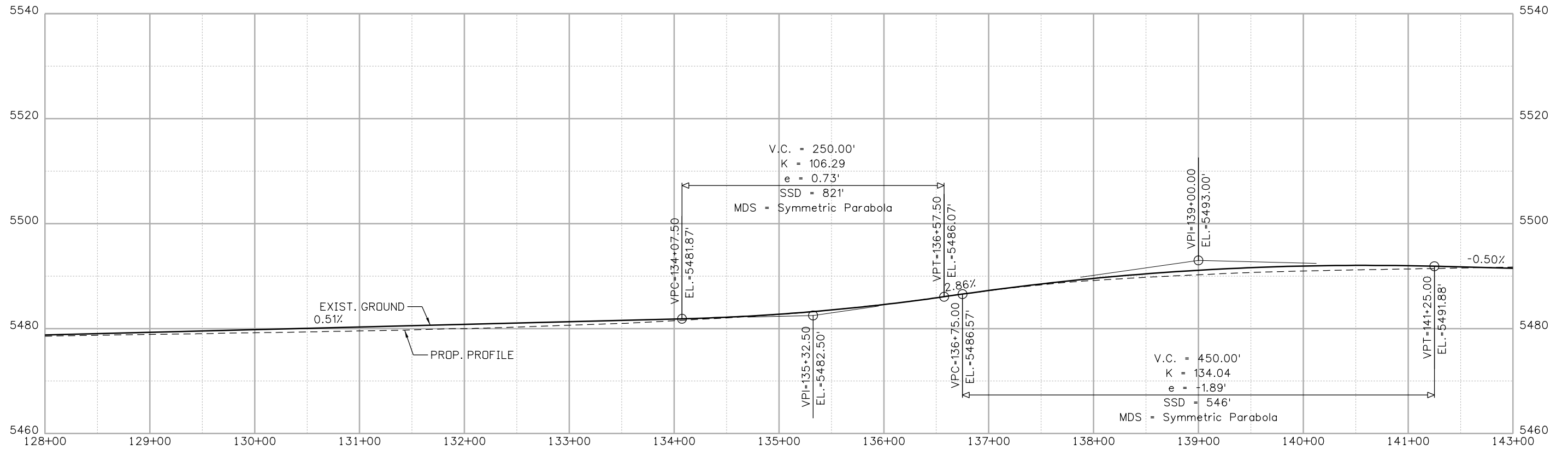
**Region 1** **DRG**

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<b>Project No./Code</b>
Project Number
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Print Date: 10/10/2013	
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Unit Information	Unit Leader Initials
<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

Sheet Revisions		
Date:	Comments	Init.

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 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037  
**Region 1** **DRG**

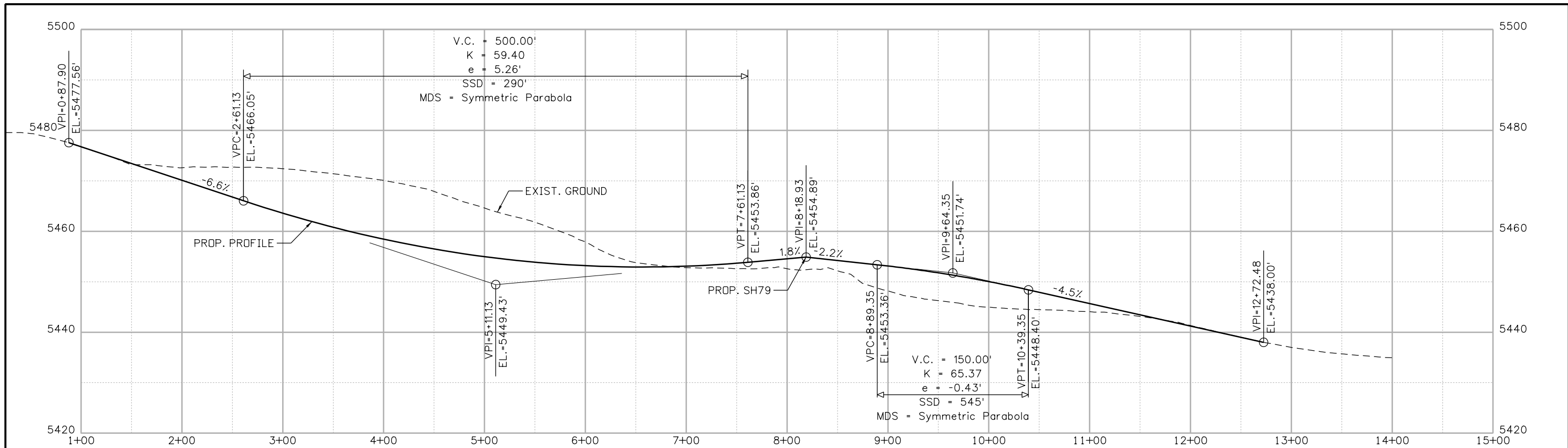
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Unit Information	Unit Leader Initials
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Sheet Revisions		
Date:	Comments	Init.

**Colorado Department of Transportation**  
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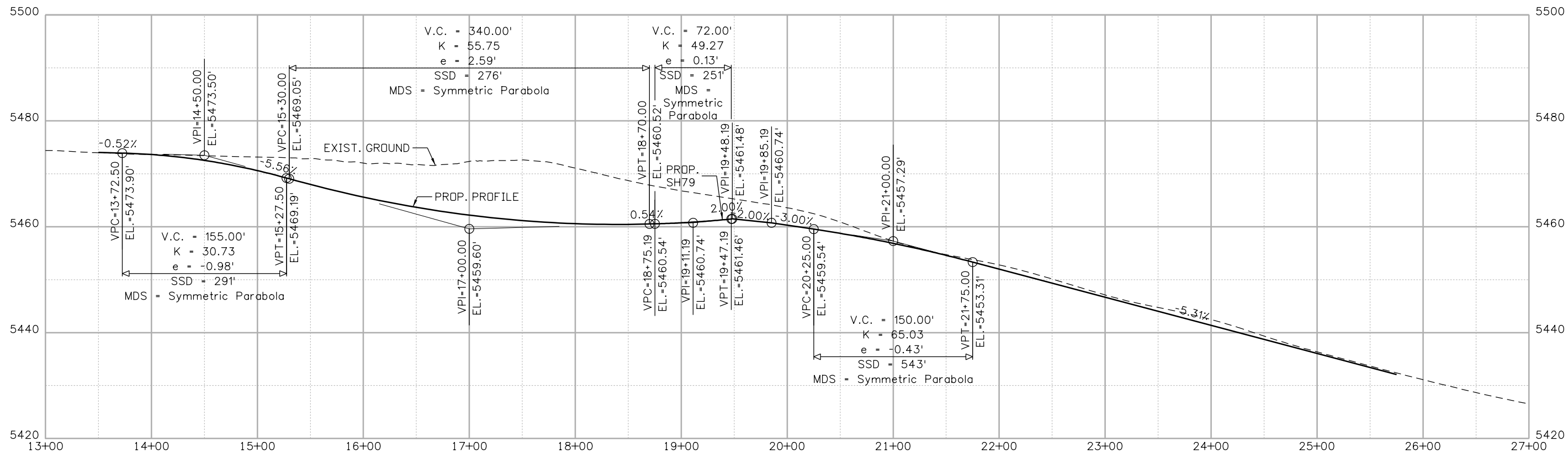
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No Revisions:
Revised:
Void:

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Designer: BCBS	Structure Numbers	
Detailer: LDL	Subset Sheets: 07 of 12	
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Unit Information	Unit Leader Initials
<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

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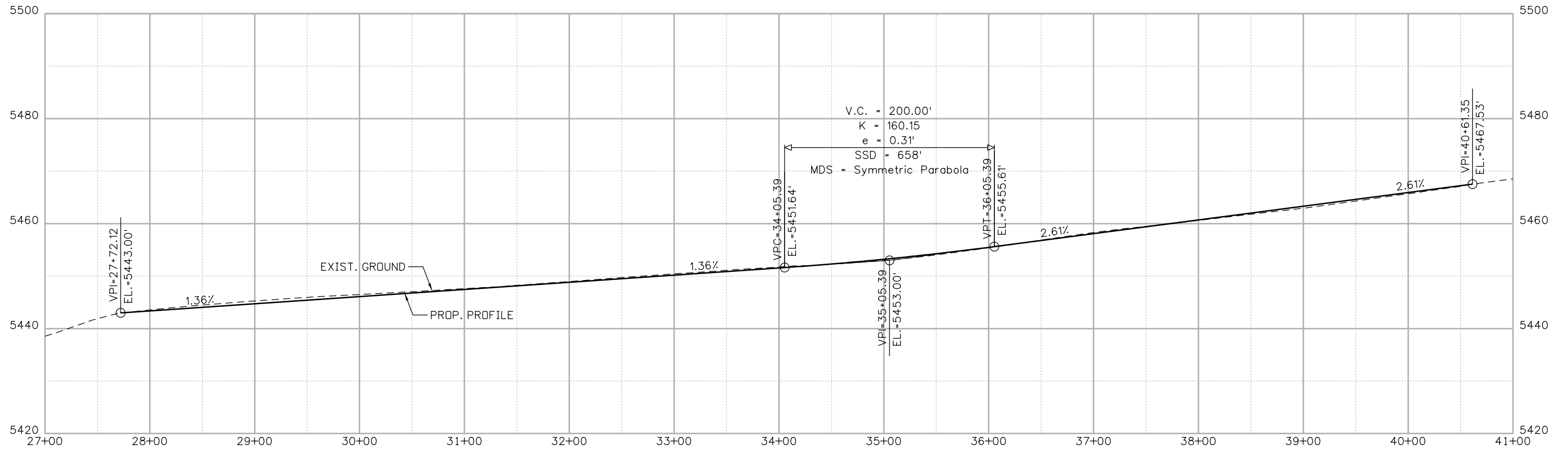
**Colorado Department of Transportation**  
 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037

**Region 1** **DRG**

<b>As Constructed</b>
No Revisions:
Revised:
Void:

<b>OLD VICTORY RD. PROFILE SHEET</b>		
<b>ALTERNATIVE 1</b>		
Designer: BCBS	Structure Numbers	
Detailer: LDL	Subset Sheets: 08 of 12	

<b>Project No./Code</b>
Project Number
Code
Sheet Number <b>22</b>



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Unit Information	Unit Leader Initials
<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

Sheet Revisions		
Date:	Comments	Init.

**Colorado Department of Transportation**  
 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037

**Region 1** **DRG**

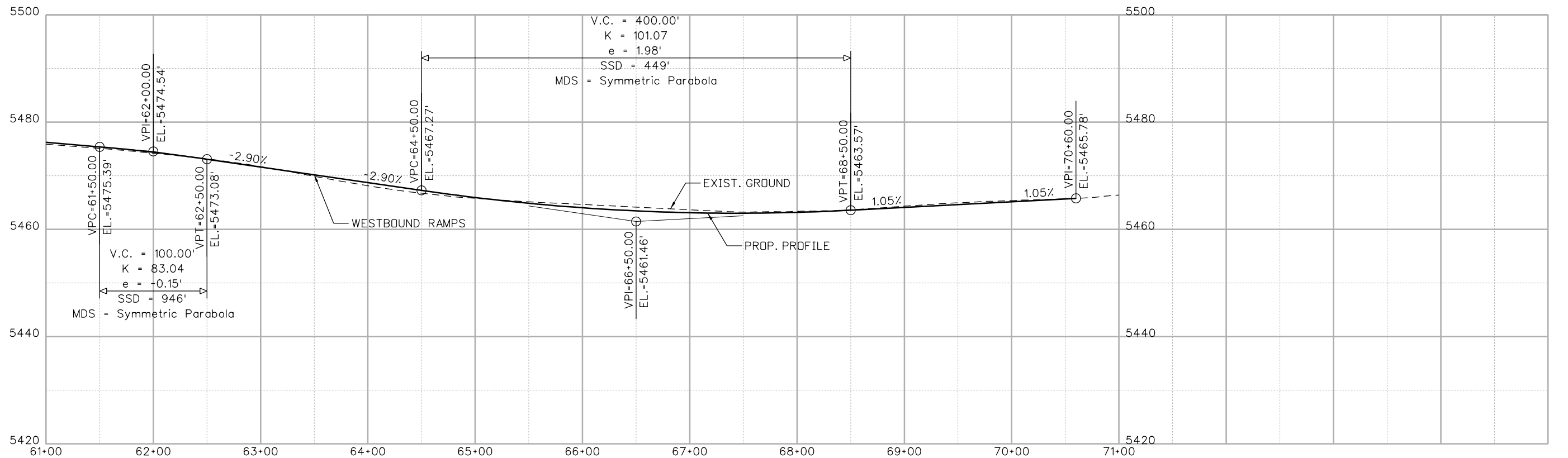
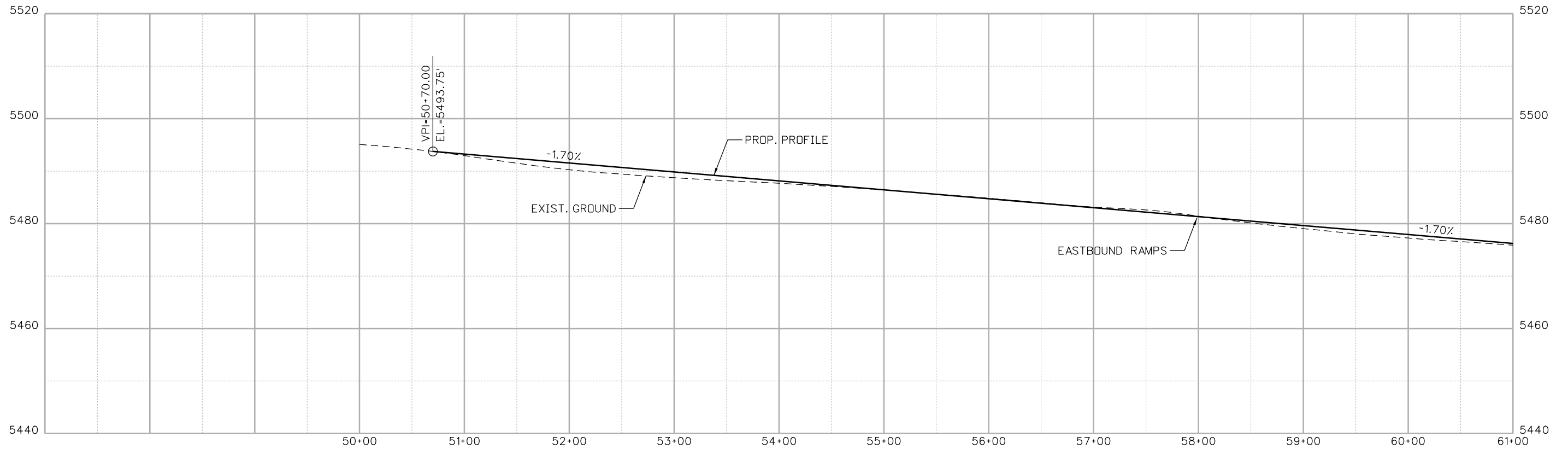
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<b>PROFILE SHEET</b>	
<b>ALTERNATIVE 1</b>	
Designer: BCBS	Structure Numbers
Detailer: LDL	
Sheet Subset: PROFILE	Subset Sheets: 09 of 12

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Project Number
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Sheet Number <b>23</b>

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Page 4/45



Print Date: 10/17/2013	
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Unit Information	Unit Leader Initials
<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

Sheet Revisions		
Date:	Comments	Init.

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**Region 1** **DRG**

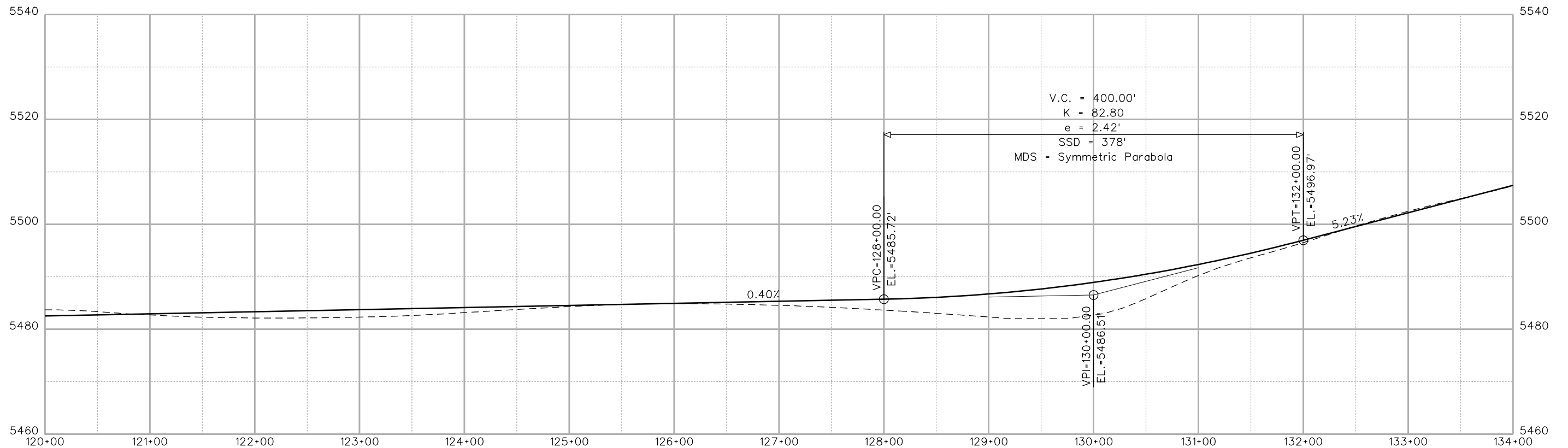
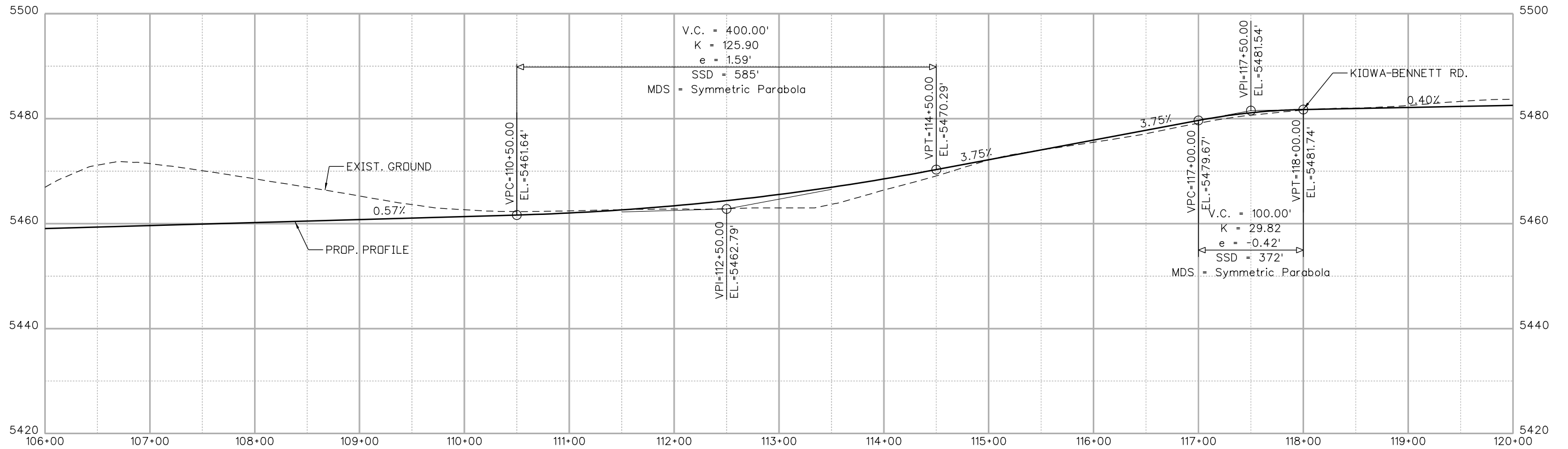
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<b>ALTERNATIVE 1</b>		
Designer: BCBS	Structure Numbers	
Detailer: LDL	Subset Sheets: 10 of 12	
Sheet Subset: PROFILE		

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Unit Information	Unit Leader Initials
<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

Sheet Revisions		
Date:	Comments	Init.

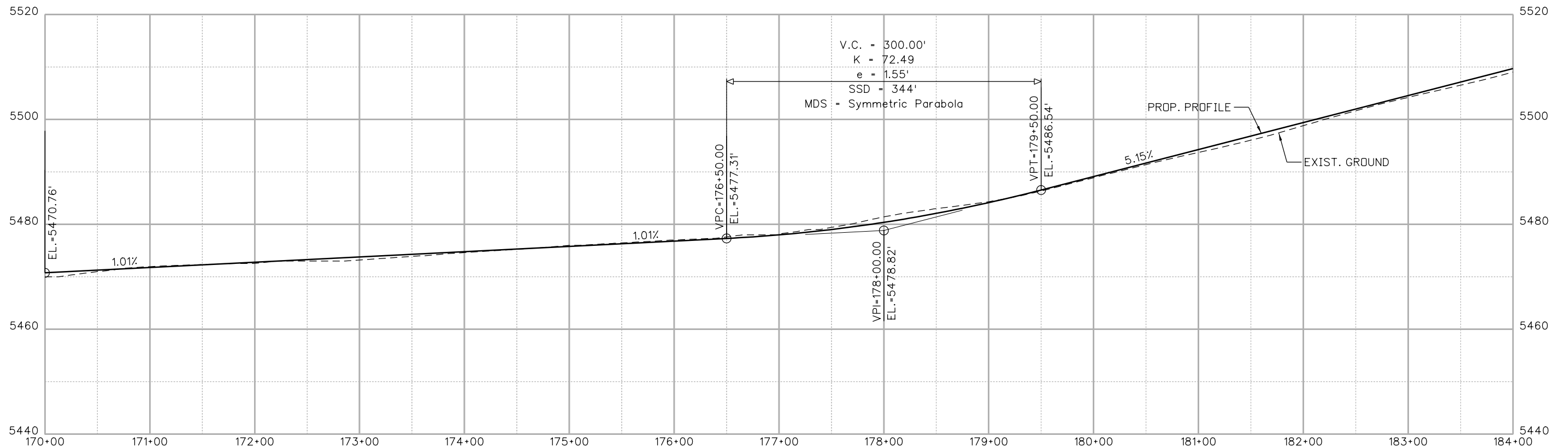
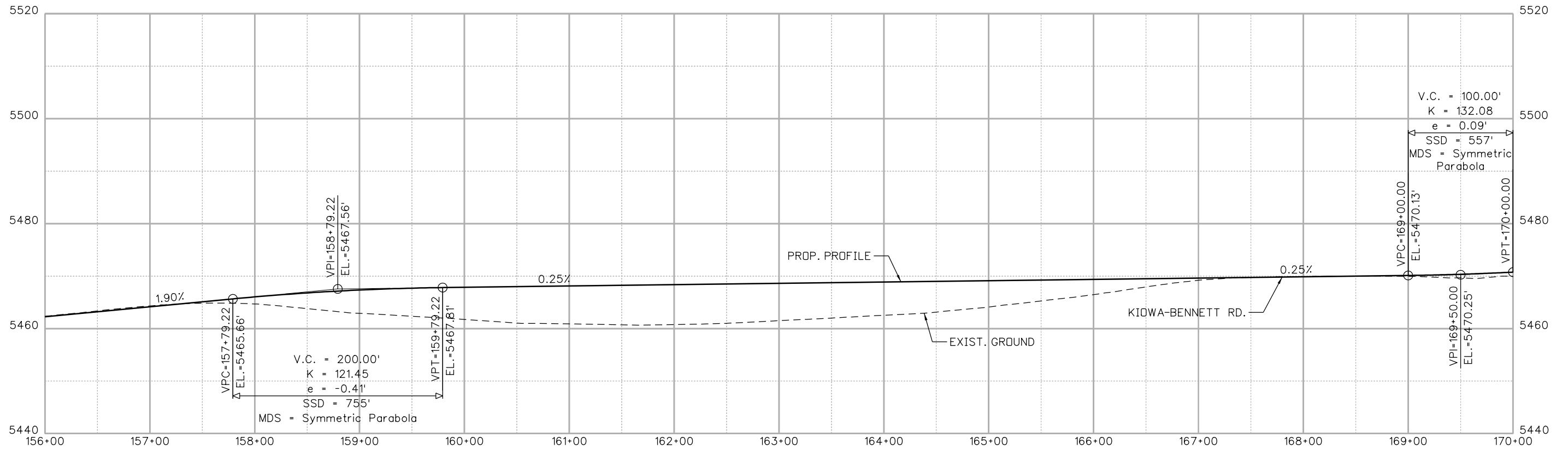
**Colorado Department of Transportation**  
 7328 S. Revere Parkway  
 Suite 204A  
 Centennial, CO 80112  
 Phone: 303-365-7234 FAX: 303-790-1037

**Region 1** **DRG**

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<b>KIOWA-BENNETT EASTBOUND RAMP</b>		
<b>PROFILE SHEET</b>		
<b>ALTERNATIVE 1</b>		
Designer: BCBS	Structure Numbers	
Detailer: LDL		
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Sheet Number <b>25</b>



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Unit Information	Unit Leader Initials
<b>ATKINS</b>	4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone: (303) 221-7275 Fax: (303) 221-7276

Sheet Revisions		
Date:	Comments	Init.

**Colorado Department of Transportation**  
 7328 S. Revere Parkway  
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**Region 1** **DRG**

<b>As Constructed</b>
No Revisions:
Revised:
Void:

<b>KIOWA-BENNETT WESTBOUND RAMP</b>		
<b>PROFILE SHEET</b>		
<b>ALTERNATIVE 1</b>		
Designer: BCBS	Structure Numbers	
Detailer: LDL	Subset Sheets: 12 of 12	

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Project Number
Code
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**APPENDIX F**  
**TECHNICAL ADVISORY COMMITTEE AND**  
**RESOURCE AGENCY COORDINATION**



## TECHNICAL ADVISORY COMMITTEE CHARTER

9/27/12

### Introduction

The purpose of this Charter agreement is to identify roles, responsibilities, and a decision-making process for the State Highway 79 (SH 79) and Kiowa-Bennett Corridor Planning and Environmental Linkage (PEL) Study Technical Advisory Committee (TAC) to help facilitate reasonable, feasible recommendations for transportation improvements to the SH 79 and Kiowa-Bennett Road corridors.

It is understood that this Charter is a living document and may be revised as needed to adapt to changes in the project scope or Technical Advisory Committee membership.

### Project Background

SH 79 begins at I-70 and continues north. SH 79 is the Town of Bennett's most important north/south transportation corridor and Adams County's most important rural transportation corridor that supports regional mobility for Adams County and economic activity for the Town of Bennett. However, regional corridor traffic must maneuver the Town's local street system and an at-grade crossing of the UPRR tracks. SH 79 through Bennett is designated as a hazardous materials route by the Department of Public Safety. Colorado Department of Transportation (CDOT) traffic data indicate that truck traffic on SH 79 at the UPRR crossing is about 10 percent of the total traffic. Future rail traffic is anticipated to grow, and the exposure to this safety issue will only increase.

Kiowa-Bennett Road serves as a regional north-south corridor through eastern Arapahoe County. Kiowa-Bennett Road does not have full, direct access to I-70 and traffic traveling between Kiowa-Bennett Road and SH 79 must travel along Colfax Avenue (US 36) and through downtown Bennett. Improving regional connectivity and access to the I-70 corridor will be essential to achieve economic development for eastern Adams and Arapahoe Counties.

The purpose of the SH 79 and Kiowa-Bennett Corridor PEL Study is to work with stakeholders to determine the short-term and long-term transportation needs of the SH 79 and Kiowa-Bennett Road corridors around the Bennett area, to address the increasing congestion and safety issues, and to identify transportation improvement alternatives that balance anticipated access needs with regional mobility and connectivity. To assist with alternatives development and evaluation, the study process includes the formation of a Technical Advisory Committee comprised of stakeholder agency representatives.

The Technical Advisory Committee will meet frequently (anticipated monthly) with consultant representatives to provide technical input as the PEL study progresses. The Technical Advisory Committee will include staff from the local communities, state and federal agencies, and other regional partners. Agencies represented by the Technical Advisory Committee include:

- Town of Bennett
- Adams County
- Arapahoe County
- CDOT

- Denver Regional Council of Governments (DRCOG)
- Federal Highway Administration (FHWA)

## Technical Advisory Committee Purpose and Objectives

The purpose of the Technical Advisory Committee is to provide a formal mechanism through which agency representatives can communicate regional and local needs relating to transportation decisions for the SH 79 and Kiowa-Bennett Road corridors in the study area and provide direction to the consultant regarding the project. The Technical Advisory Committee will assist in developing recommendations that are mutually consistent with agency mandates, meet the project Purpose & Need statement for the project, and will lead to timely implementation of improvements.

To accomplish these objectives, the Technical Advisory Committee will:

- Work together to build trust by meeting regularly using frequent and effective communication.
- Participate fully and have authority to represent their agencies.
- Serve as the primary connection with their communities or organizations.
- Coordinate with elected officials and appropriate staff within their respective agencies on specific transportation, community, economic, or environmental issues.
- Develop an understanding of the varying interests and requirements of the involved agencies and other parties.
- Conduct timely reviews of project information and findings, contributing to the development of improvement recommendations.
- Evaluate options considering mitigation concepts and opportunities specific to the project, based on current agency standards, and consistent with local and regional plans and state and federal guidelines.

## Agreement by Consensus

Every effort will be made to achieve consensus within the Technical Advisory Committee on each of the project key milestones. Consensus is an agreement achieved by identifying and exploring all parties' interests and assembling an agreement that satisfies those interests to the greatest extent possible. A consensus is reached when all parties agree that their major interests have been taken into consideration and addressed in a satisfactory manner.

Consensus does not necessarily mean unanimity of agreement. Some parties may strongly endorse a particular recommendation, while others may accept it as a workable agreement. Members can participate in the consensus without fully embracing each element of the agreement or having each interest fully satisfied. In a consensus agreement, the parties recognize that given the combination of gains and trade-offs in the package agreement, the resulting recommendations are the best the parties can make at this time.

To achieve consensus, the following principles should be followed:

- To participate fully and freely, all members must have a common base of information and keep up-to-date on the progress of the Committee;
- A working environment and expectation must be created in which everyone will feel comfortable stating his/her views and to disagree;
- A disagreement can illuminate unrecognized problems and serve as a catalyst for improving the recommendation;

- When there is an objection, the goal of the Committee is to discover the unmet need or adverse implication that has produced the objection and find a way to meet that need, address the concern, or mitigate impacts via a revised agreement, rather than to suppress the objection; and
- Agreement on definitions, principles and criteria should precede and become the foundation of substantive agreements.

## Concurrence Points

The Technical Advisory Committee members will provide concurrence on decisions at the following key milestones:

MILESTONE	EXPECTED SCHEDULE	MEANS OF CONCURRENCE
Technical Advisory Committee Charter	TAC Meeting #2 September 27, 2012	Committee member signatures
Purpose and Need Statement	TAC Meeting #3 October 25, 2012	Committee acceptance of meeting notes
Evaluation Criteria	TAC Meeting #4 December 13, 2012	Committee acceptance of meeting notes
Alternatives Developed	TAC Meeting #5 January 17, 2013	Committee acceptance of meeting notes
Level 1 Alternatives Screening Matrix	TAC Meeting #5 January 17, 2013	Committee acceptance of meeting notes
Level 2 Alternatives Screening Matrix	TAC Meeting #6 February 28, 2013	Committee acceptance of meeting notes
Alternatives Refinement Results / Draft Recommendations	TAC Meeting #7 April 11, 2013	Committee acceptance of meeting notes
Final Study Recommendations	Study Completion May 2013	Committee member signatures on a support page; Agency support letter and/or Resolution

## Technical Advisory Committee Concurrence

Concurrence for decisions presented at Committee meetings, as shown above, will be provided by acceptance of the distributed meeting notes. When distributed, members will be given five business days to offer corrections to the notes. Lack of response within the deadline will constitute acceptance of the notes as originally recorded.

Revisiting decisions with previous concurrence may have substantial impacts to the study schedule and budget. Technical Advisory Committee members are expected to consult and coordinate within their respective agencies for responses to project issues and recommendations. If concurrence cannot be provided at the meeting, Technical Advisory Committee members will respond to the Town of Bennett Project Manager within the number of days requested, in order to keep the project on schedule. If a member's response is not received within the requested timeframe, the non-responding member will be recorded as having not objected to the decision.

Based on elected official availability and need for input, there may be schedule impacts to wait for agency concurrence.

Final concurrence of the SH 79 and Kiowa-Bennett Corridor PEL Study and improvement recommendations will be requested of each participating agency. An agency "support" page will be routed to Technical Advisory Committee members to acknowledge their respective agency's support for the study recommendations. Agencies will also be requested to provide, as appropriate, a letter or resolution in support of the study recommendations.

## Ultimate Responsibility for Decision Making

Responsibility for decision making on a recommended alternative(s) for the SH 79 corridor prior to NEPA environmental clearance will rest with CDOT, in collaboration with the Town of Bennett and Adams County. Responsibility for decision making on a recommended alternative(s) for the Kiowa-Bennett Road corridor prior to NEPA environmental clearance will rest with Arapahoe County. Planning for the two corridors' recommendations will be coordinated through the PEL study. Each roadway north and south of I-70 may impact one another and the decisions made for one segment may adversely affect the other. Therefore, decisions need to be made with this understanding and efforts need to be made to minimize such adverse impacts.

Because SH 79 is a state highway, I-70 is an interstate, and there is a possibility of state or federal funding for some improvements proposed through this study, final selection of a preferred alternative will be made through a subsequent NEPA process by the lead federal agency (FHWA) in conjunction with the appropriate project partners. This selection will be made on the basis of an appropriate environmental clearance document, subsequent to this PEL study. This applies to SH 79 and I-70 only and Kiowa-Bennett Road if state or federal funds are used.

## Meeting Guidelines

In agreeing to this Charter, the Technical Advisory Committee adopts the following guidelines to promote effective Committee work:

- Meetings will begin and end on time;
- Committee members will regularly attend and prepare for work sessions;
- Committee members will listen to other points of view and try to understand the interests of others;
- Committee members will openly discuss issues with those who hold diverse views and participate in cooperative problem-solving to resolve differences;
- Committee members will keep his/her organization or agency, including elected officials, informed and get the right people to make decisions, as appropriate;
- The Committee will resolve issues that are within their power to solve and re-direct those issues that cannot be solved.

## Communication Plan

Communication between the Technical Advisory Committee and the Town of Bennett and consultant team will be as follows:

- Technical Advisory Committee members will serve as the main point of contact for their agency for information relating to this process and project.

- Meeting agendas will be e-mailed to Technical Advisory Committee members approximately one week in advance of the meeting date. Meeting handouts will be e-mailed to members prior to the meeting, when available.
- Meeting notes and summary of the meeting will be distributed in draft form within five business days of the associated meeting date. Notes will consist of the highlights of the meeting, recap of discussion, agreements or disagreements of note, action items, and commitments made. Members will be given five business days to offer corrections to the notes. Lack of response within the deadline will constitute acceptance of the notes. Final notes, edited to reflect comments made by members, will be provided within two business days of the corrections deadline.
- Offline meeting results will be shared with the Technical Advisory Committee.
- Meeting dates will be confirmed at the previous meeting and scheduled at least two weeks in advance. Meetings may be arranged with less notice if needed to keep the study on schedule.

### Alternative Representatives

The designated Technical Advisory Committee representatives of each agency may need to name an Alternate to represent the agency due to scheduling conflicts.

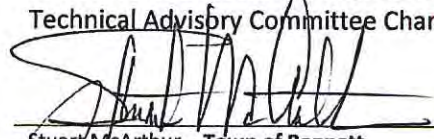
- Alternates will be briefed by the designated agency Technical Advisory Committee member. Materials distributed to date will be shared so that the Alternate is up to date on Committee activities.
- Alternates will represent the agency in consensus decision making at meetings they attend.
- If an agency's representative on the Technical Advisory Committee must change, the Committee member or a designated Committee member will brief new members. Departing members will recommend an appropriate replacement.

### Charter Changes

Any necessary changes to amend this Charter or the decision making process, as may be proposed by the Technical Advisory Committee, will be evaluated by the Town of Bennett Project Manager for impacts to the schedule.

### Agency Support

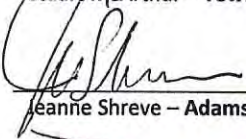
The SH 79 and Kiowa-Bennett Corridor PEL Study Technical Advisory Committee members support the Technical Advisory Committee Charter as indicated by the following signatures:



Stuart McArthur – Town of Bennett

9/27/12

(Date)



Jeanne Shreve – Adams County

9-27-2012

(Date)



Bryan Weimer – Arapahoe County

9/27/12

(Date)



Dale Grebenik – Colorado Department of Transportation (CDOT)

9/27/12

(Date)



Todd Cottrell – Denver Regional Council of Governments (DRCOG)

9/27/12

(Date)



Melinda Urban – Federal Highway Administration (FHWA)

9-28-12

(Date)



Agency Name	1st Outreach - Project Intro & Existing Conditions Review Request Letter Sent	Agency Response Received?	Agency Comments	2nd Outreach - Project Update Letter Sent	Updated Information Provided to Agency	Agency Response Received?	Agency Comments	Follow-up Needed/ Action Items
Adams County Parks and Community Resources	11/21/12, to Rick Anderson, Director	12/11/2012, via letter to DEA from Roger Harvey, Natural Resources Specialist	<p>Concurs with this study regarding potential wetlands, Preble's habitat, and riparian habitat in Kiowa Creek floodplain.</p> <p>Limit transportation impacts in Kiowa Creek floodplain.</p> <p>For new crossings of Kiowa Creek, consider or accommodate a public trail running north/south underneath.</p>	7/16/2013	Project update and graphic of recommended alternative (Alt. 1). The map of Alternative 1 shows that the majority of the proposed improvements would occur outside of the Kiowa Creek floodplain. Alternative 1 does not include new crossings of Kiowa Creek.	No		
Arapahoe County Open Spaces	11/21/12, to Josh Garcia	1/8/13, meeting held with Open Spaces representatives	<p>Landowners in Arapahoe County have noted that they will not grant a trail easement through their property for the Kiowa Creek Trail.</p> <p>Open Spaces is opposed to a roadway alignment bisecting the Kiowa Creek North Open Space. Due to the drainage of the open space and the conservation values, County Open Spaces would like to keep the Kiowa Creek North Open Space as a quiet, rural, natural open space area.</p> <p>Open Spaces preference is to use the east side of the Kiowa Creek North Open Space property for access instead of developing a trailhead in the southwest corner. The existing topography and a drainage culvert makes a trail on the west side of Kiowa-Bennett Road difficult.</p> <p>The riparian area needs to be preserved.</p>	7/16/2013	Project update and graphic of recommended alternative (Alt. 1). As shown in the map of Alternative 1, there would be no impacts to parks and recreational areas or open space, including Kiowa Creek North Open Space or the proposed Bennett Regional Park and Open Space (formerly Antelope Hills Golf Course). Alternative 1 includes no new crossings of Kiowa Creek. Improvements under Alternative 1 would remain a minimum of 300 feet from riparian areas. Because I-70 currently crosses Kiowa Creek, some improvements to I-70 under Alternative 1 would be within a riparian area. These improvements would cross Kiowa Creek at a perpendicular angle, minimizing impacts to the riparian area.	No		During NEPA process, include mitigation measures to minimize impacts to Kiowa Creek riparian areas for reconstruction of overpass and construction of on/off ramps at I-70 and Kiowa-Bennett Road.
Colorado Department of Health and Environment, Air Pollution Control Division	11/21/12, to Jim DiLeo	No		7/16/2013	Project update and graphic of recommended alternative (Alt. 1).	7/25/2013	Reviewed request for air quality determination for the PEL. Noted that all sources of potential construction project air emissions obtain a construction permit. An Air Pollution Emission Notice is required for specific uncontrolled emission quantities: 2 tons/year in attainment areas; 1 ton/year in nonattainment areas; 100 lbs lead/year all areas. Earth moving activities >25 acres or >6 mos duration also require an Air Pollution Emission Notice and start-up notice 30 days prior to project start.	During the NEPA process, verify that an Air Pollution Emission Notice is required (Air Quality Regulation No 3, Section II.D.1). Identify construction permit(s) required for each emission point (construction equipment) or group of similar emission points based on expected emissions quantities. Determine the need for an Air Pollution Emission Notice if earth moving activities would affect >25 acres or last >6 months.
Colorado Department of Health and Environment, Water Quality Control Division	11/21/12, to Bret Icenogle, Engineering Section Manager	No		7/16/2013	Project update and graphic of recommended alternative (Alt. 1).	No		
Colorado State Historic Preservation Office	11/21/12, to Amy Pallante, 106 Compliance Officer	No		7/16/2013	Project update and graphic of recommended alternative (Alt. 1).	No		
Town of Bennett Parks and Recreation	11/21/12, to Chris Raines, Executive Director	No		7/16/2013	Project update and graphic of recommended alternative (Alt. 1).	No		
Urban Drainage and Flood Control District	11/21/12, to Bill DeGroot, Manager, Floodplain Management	No		7/16/2013	Project update and graphic of recommended alternative (Alt. 1).	No		
U.S. Department of Agriculture, Natural Resource Conservation Service	11/21/12, to Sammie Molinaro, District Conservationist	No		7/16/2013	Project update and graphic of recommended alternative (Alt. 1).	No		

Agency Name	1st Outreach - Project Intro & Existing Conditions Review Request Letter Sent	Agency Response Received?	Agency Comments	2nd Outreach - Project Update Letter Sent	Updated Information Provided to Agency	Agency Response Received?	Agency Comments	Follow-up Needed/ Action Items
Colorado Parks and Wildlife, NE Region	11/21/12, to Liza Hunholz, Area 5 District Wildlife Manager	1/14/2013, via letter to DEA from Liza Hunholz	<p>Recommends Town of Bennett, Adams and Arapahoe Counties employ collaborative approach with other developments to maintain wildlife habitat in as whole a state as possible.</p> <p>Regarding improvements to SH 79 and Kiowa-Bennett Road, roads should remain at least 300 feet from riparian areas (Kiowa Creek), and run parallel to existing riparian corridor ROW. If any roads must cross riparian areas, they should cross perpendicular to creek bottom.</p> <p>Trails should remain at least 50 feet from riparian areas and be no wider than 8 feet for entire length.</p> <p>Conduct burrowing owl survey to locate any active burrows prior to any disturbance in a prairie dog town.</p> <p>Incorporate survey protocols [sent with letter] to protect nesting burrowing owls.</p> <p>Concerned about impacts to raptors; incorporate buffer zones and seasonal restrictions for raptors [sent with letter]</p> <p>Recommends buffer of at least 150 feet of any active burrows or nest sites; maintain this buffer during construction periods that may interfere with nesting season.</p> <p>Consult with USFWS regarding federally protected threatened or endangered species.</p> <p>Use principles from integrated weed management plan(s) that counties may already have in place.</p>	7/16/2013	Project update and graphic of recommended alternative (Alt. 1). The map of Alternative 1 shows that improvements to Highway 79 would remain a minimum of 300 feet from riparian areas. Because I-70 currently crosses Kiowa Creek, some improvements to I-70 under Alternative 1 would be within a riparian area. I-70 currently crosses Kiowa Creek at a perpendicular angle. Therefore, the improvements proposed under Alternative 1 would as well.	No		As this project moves into the NEPA process, surveys for burrowing owls and any other species identified upon consultation with USFWS would be conducted according to established state and/or federal protocols. This may include a formal concurrence request from the USFWS that no federally-listed species would be adversely affected by the project. Clearing and grubbing operations and work on structures would be scheduled to avoid take (pursue, hunt, take, capture or kill; attempt to take, capture, kill or possess) of migratory birds protected by the Migratory Bird Treaty Act. Pre-construction surveys for nesting birds would be completed and would follow the methods set forth by the USFWS and CPW. Seasonal restrictions would be incorporated and buffers established for construction periods for active burrows or other nest sites as warranted during nesting season. To further protect habitat, principles from county integrated weed management plans would also be incorporated into mitigation measures.
U.S. Army, Corps of Engineers	11/21/12, to Timothy Carey, Denver Regulatory Office	Yes, informal in January 2012	Kyle from the USACE called and told Wendy Wallach (DEA) he would be sending standard letter about complying with requirements of Section 404 of Clean Water Act. She said she was aware of requirements and we were considering impacts to wetlands and floodplains in evaluation.	7/16/2013	Project update and graphic of recommended alternative (Alt. 1). Wetlands and Waters of the US (WUS) have been identified and considered in the study area. One irrigation ditch located in the southeast corner of the study area would be impacted by the recommended alternative. This ditch has been identified as a potential wetland.	7/19/13 via email to Stacy Tschur (DEA) from Kiel Downing, Regulatory Project Manager, Denver	Office is unable to provide comments or recommendations at this time. Once aquatic resources are identified within the proposed corridor, we will be able to provide substantive comments regarding the Preferred Alternative.	Under Section 404 of the Clean Water Act, impacts to WUS, including wetlands and open water features, must be avoided, minimized, or mitigated (in order of preference) to ensure that there is no net loss of functions and values of jurisdictional wetlands. A Section 404 permit would likely be required from the USACE to authorize placement of dredge or fill material in any WUS, including wetlands.
U.S. Environmental Protection Agency	11/21/12, to Robin Coursen, Transportation Sector, NEPA Compliance Division	No		7/16/2013	Project update and graphic of recommended alternative (Alt. 1).	No		
U.S. Fish and Wildlife Service (USFWS)	11/21/12, to Alison Michael	12/10/12, via letter to DEA from Susan Linner, Colorado Field Supervisor	<p>Letter lists T&amp;E species most likely to be affected for Arapahoe and Adams Counties.</p> <p>Federally listed species downstream of the project area could be affected if project results in water depletions of the South Platte River. It is assumed such depletions will be mitigated through the South Platte Water Related Activities Program.</p> <p>Have qualified biologist conduct field survey during nesting season to determine absence or presence of migratory birds prior to construction.</p> <p>Avoid construction activities in grassland, wetland, stream, and woodland habitats, and those that occur on bridges to avoid take of migratory birds and/or active nests.</p> <p>Consult with USFWS if any water bodies will be modified.</p>	7/16/2013	Project update and graphic of recommended alternative (Alt. 1). The PEL notes that downstream impacts to aquatic species could occur due to impacts to water resources as a result of depletions to the South Platte River.	8/1/2013 sent to Stacy Tschur from Susan C. Linner, CO Field Supervisor	USFWS anticipates habitat surveys will be needed for Preble's meadow jumping mouse, Ute's ladies' tresses orchid, and Colorado butterfly plant. However, the list of threatened and endangered species may change by the time project construction begins. USFWS acknowledges the project commitments to avoid impacts to migratory birds and wetlands.	As this project moves into the NEPA process, mitigation through the South Platte Water Related Activities Program would be incorporated. Surveys for burrowing owls and any other species identified upon consultation with the USFWS would be conducted according to established state and/or federal protocols. This may include a formal concurrence request from the USFWS that no federally-listed species would be adversely affected by the project. Conduct habitat surveys for Preble's meadow jumping mouse, Ute's ladies' tresses orchid, and Colorado butterfly plant. Consult with USFWS to determine if surveys for additional species is warranted. Consult with USFWS if any water bodies would be modified. Construction activities would avoid grasslands, wetlands, streams, and other wetland habitats to the extent possible. Clearing and grubbing operations and work on structures would be scheduled to avoid take of migratory birds protected by the Migratory Bird Treaty Act. Pre-construction surveys for nesting birds would be conducted by a qualified biologist during nesting season and would follow the methods set forth by the USFWS and state. Seasonal restrictions would be incorporated and buffers established for construction periods for active burrows or other nest sites as warranted during nesting season.



# APPENDIX G

## PUBLIC COMMENTS RECEIVED





## PUBLIC MEETING #1 SUMMARY

November 15, 2012

Public Meeting # 1 was held on November 15, 2012 at the Bennett Recreation Center (455 S. First Street, Bennett, CO 80102). The meeting was held from 5:00 – 7:00 PM in an open house format. Over 40 members of the public attended, along with 13 agency and consultant team staff members. Following is a summary of project comments submitted by meeting attendees on comment sheets, via the project website comment form, and recorded by open house staff during one-on-one conversations with attendees during the meeting. This summary includes comments received through December 11, 2012.

### Study Introduction/Purpose & Need

- I don't agree with the Project Purpose and Goals. (4 comments)
- I agree with the Project Purpose and Goals. (2 comments)
- I have not been convinced of the need for the project.
- There is no issue with connectivity; it's not much of an inconvenience.
- Opposed to spending money on a new road and study.
- Not enough traffic to warrant a new road.
- Understand issues regarding schools and increasing truck traffic.
- There does need to be improvement for railroad crossing.

### Traffic Conditions

- Bennett is not that big. Impact of traffic would be horrible.
- I am concerned that the improved access through SH 79 will bring major increase in traffic down SH 79 where I live.
- It is your own fault. You annex outlying property and then complain that there is traffic. You put in a truck stop and then complain because there are trucks. You need to straighten out that mess at the railroad crossing.
- Concern regarding truck traffic. (5 comments)
  - Don't want a truck route on Kiowa-Bennett Road.
  - Fear more truck traffic at higher speeds will open up the area for more traffic going north.
  - Where is truck traffic coming from? Paradise Valley? I-76? Where is scale to north? Oversize permit records? Oversize loads really tie up traffic.
  - Semis and traffic from north is dangerous near school.

### Roadway Features

- Existing condition is hard on trucks turning.
- Keep substantial green area between Cordella estates and west side of new road.
- A large bridge over the creek may be needed because it floods.
- Concern regarding curves and sight distance. (4 comments)

- The curve on SH 79 near Old Victory Road is dangerous.
- Make sure any curves on new roads are safe and have good sight distance.
- Sight distance issue from I-70 ramps turning left onto SH 79.
- Concrete curbs added have narrowed the road too much on SH 79 for large vehicles to maneuver curves and turns.
- This is an agricultural community and need wide enough roadways (especially around the elevators) for haul trucks to stay in their lanes.

### **Environmental and Community Resources**

- Concern about more pollution (fuel).
- Don't avoid or relocate prairie dogs – just go through their habitat and get rid of them.
- You will drastically disturb wildlife – deer, turkeys, etc. (3 comments)
  - Lots of animals live near the creek.
- Road should stay out of Kiowa Creek floodplain.
- Besides being real expensive, a road over the railroad tracks may hurt businesses if it bypasses the town.
- A realigned road will have visual impacts (changing peaceful views).
- Very concerned regarding noise impacts. (3 comments)
- A new trail or roadway will cut horse pasture and farmland in half.
- How will farm equipment cross and use a busy new highway?
- I am not for a road through our farm at CR 133. It would connect from Antelope Hills (north) going 45 degrees west to CR 133. It would impact our whole way of life. The new road would almost be in our front yard. No peace and quiet anymore. It would ruin our horse pasture, the wildlife at the creek. We've (Converse) been there almost 100 years. Hate to see our land ruined by a major road. Have to look out our windows all day long to noise and traffic. May be more crime on our farm, etc.
- Quality of life is more important than the money that would be offered for property impacts.
- I live on View Ridge Road (Cordella) and would rather the road did not interfere with our neighborhood.

### **Alternative Modes**

- Do owners of land know of proposed trails and have they given permission?
- Crossing railroad tracks is not appropriate for children or pedestrians.
- Need to widen SH 79 and US 36 to provide room for bikes.

### **Improvement Suggestions**

- Create a full interchange at the existing Kiowa-Bennett Road location. (6 comments)
  - Put off and on ramp on existing Kiowa-Bennett Road. I now have to drive 2 miles but if we turn urban what would be the big deal?
  - We live at US 36 & Kiowa-Bennett Road. We would like to see an on/off ramp at I-70 and Kiowa and remove the Lady Bird Hill exchange.

- Full interchange at Kiowa-Bennett Road and go straight north to provide the most choices.
- Interchange at Kiowa Bennett Road and I-70 is needed and will help remove some traffic from SH 79. Ramp to rest area not needed now with the closure of the rest area.
- I don't really see a lot of need for realignments other than increasing ramps at I-70 and Kiowa-Bennett Road.
- Nobody even knows who has the right of way. How about one of those turn-about things?
- Keep SH 79 exit east of Cordella, put through to Kiowa-Bennett Road and swing road through old village homes to connect with existing SH 79.
- Need to get highway away from school.
- Need turn lanes at school and on US 36 when trains are present so through traffic can still move.
- No roundabouts – difficult to get through with horse trailer which exist a lot in the community.
- Widening is needed all the way to the north (north of 38<sup>th</sup>).
- Consider new route further east to ridge line with interchange at I-70 where US 36 meets Colfax.
- Consider a split diamond configuration for the replacement I-70 Exit 304 interchange (at Converse Road). This would move the existing I-70 West off-ramp from 304 to 305 (1 mile further east) and the I-70 West on-ramp from 304 to 305. In between 304 and 305, a frontage road would connect exits 304 and 305 on both sides. (3 comments)
  - Like the split diamond idea best as it has least impact on property owners.
  - I like the split diamond idea to solve the Kiowa-Bennett road situation – if it even needs solved. Those people knew what the I-70 access situation was when they moved here.
  - The representative from Bennett recommended a split-diamond. This has several advantages. 1) The right-of-way for the two frontage roads already exists. 2) This would remove the need to re-align Kiowa-Bennett Road across the Arapahoe County green space to Converse Road (exit 304). We travel to Bennett over Kiowa-Bennett Road to US 36; it seems to us that this approach of frontage roads would be the most direct route with the least impact to existing homeowners, causing a very minimal amount of re-alignment for Kiowa-Bennett Road. This change seems to be independent of where SH 79 goes.

### General Comments

- Would like to have taken home maps of proposals.
- Everyone in area gets I-70 Scout. It is the best way to advertise meetings.
- Meeting was well publicized.
- Can Town of Bennett website include link to SH79 website?
- Want to get Spaceport, so need roadways to support it.
- Can't visualize where realignments could be, need to see alternatives.
- Should have built the railroad crossing separation years ago, before recent development. (2 comments)
- Limited opportunities exist for new route due to recent and proposed development.
- Taxes are already too high.
- Conoco Phillips has five drilling rigs coming west of town. Need to look further into the future.



## PUBLIC MEETING #2 SUMMARY

Meeting held May 16, 2013

Public Meeting # 2 was held on May 16, 2013 at the Bennett Community Center (1100 W. Colfax Avenue, Bennett, CO 80102). The meeting was held from 5:00 – 7:00 PM in an open house format. 40 members of the public attended, along with 11 agency and consultant team staff members. Following is a summary of project comments submitted by meeting attendees on comment sheets, via the project website comment form, and recorded by open house staff during one-on-one conversations with attendees during the meeting. This summary includes comments received through June 14, 2013.

### Alternatives Evaluation – Level 1 and 2 Screening

#### No Action

- Prefer the No Action alternative. (2 comments)
  - Bennett needs to fix their own problems and not just pass them on to someone else.

#### Alternative 3

- Prefer Alternative 3. (3 comments)
  - Alternative 3 is the most direct connection southbound.
  - It would make sense to direct trucks on Kiowa-Bennett Road south of I-70 to the commercial area of SH 79 (truck stop).
- Alternative 3 would cut off our east property and another road west of us would cut off another property, affect wildlife going across the creek, and would be more expensive than Alternative 1 and 2.

#### Alternative 5

- Alternative 5 is a waste of money.

#### Alternative 6

- Residents like Alternative 6, but understand that keeping SH 79 in the existing location is best for commercial properties. (2 comments)
- Alternative 6 is preferred due to full interchange at SH 79/I-70 and at Kiowa-Bennett Road/I-70.

#### Alternative 9

- Alternative 9 eliminated, since it would go in the middle of our farm and ruin our way of life with a main highway a few hundred feet from our house.

#### Various Alternatives

- Alternatives 3 and 9 are not favorable.
- All ideas about an alignment on Converse Road to the south of Bennett and west of Kiowa Creek and cutting southeast back to Kiowa-Bennett Road will be fought tooth and nail by local landowners. This idea was brought forward by a few for their convenience to access I-70 to the west of Bennett.
- Going through or near the open space was a horrible idea.



## Process

- Level 2 process is well defined and well along.
- Concerned that eliminated alternatives could come back to life. (2 comments)
- I support your decision to eliminate all of the plans that you did. Showing them at this meeting confused people.
- Top priorities should be the impact on landowners, the environment and wildlife. The wishes, desires and convenience of some come at the expense of long-time residents.
- Preserve natural areas and reduce environmental impact. Do not cut through Kiowa North Open Space.
- The cost and priority to connect SH 79 and Kiowa-Bennett Road does not seem warranted at this time.
  - The proposals presented seemed to differ as to the priority of connecting SH 79 directly to Kiowa-Bennett Road or simply funneling that traffic into the Commercial District (SH 79, aka First Street, and I -70). The connection of SH 79 and Kiowa-Bennett Road would provide the only north-south continuously paved road in the easterly portion of the counties that traverses the entire depth of Adams and Arapahoe County. Kiowa-Bennett Road provides access to Highway 86 at Kiowa and Highway 24 at Falcon. This route is a valuable alternative to driving I-25. Currently the road does not appear to sustain much thru traffic, primarily serving the residential areas in the county. Without modification to the terminus areas at Falcon and Prospect Valley, the likelihood of significant thru traffic volume is unlikely. The two roads will likely continue as collectors for I-70.

## **Alternative 1 – East Railroad Crossing with Full Kiowa-Bennett Diamond**

- The most favorable of the remaining alternatives. (8 comments)
  - Addresses safety concerns with low environmental impact.
  - Is the most practical and has the least cost and disruption to wildlife and private landowners.
  - Nearby interchanges, but serves different traffic requirements.
  - This makes the most sense. There might still be some problems but those can be handled down the road.
  - Prefer because of the full interchange at I-70/Kiowa-Bennett Road.
  - After considering all the alternatives, it appears this alternative is the best.
  - Makes the most sense and is least costly.
  - I like this one because it puts an interchange where there is a partial one right now and the cost is better than others.
- This is my second choice.
- Opposed to this alternative if it results in private property acquisition.
- Would require young drivers use I-70 to get to Bennett. Add a continuous accel/decel lane between Converse and Kiowa-Bennett Roads to keep local traffic off of I-70.
- Diverts traffic to narrow two lane roads which is a bad idea.

- I've been told a full diamond would not be granted by CDOT because of its proximity to the Bennett exit interchange.

### **Alternative 2 – East Railroad Crossing with Split Kiowa-Bennett Diamond**

- This is the best alternative as it allows SH 79 traffic to pass through the town much more efficiently.
- Favor this alternative for safety reasons since it keeps local traffic off the interstate.
- Alternative 2 is more popular and preferred.
- A westbound on ramp from Kiowa-Bennett Road is very appealing and long overdue. (2 comments)
- Favor this as long as it is east enough of Cordella Estates to provide sound isolation and vision.
- Second best if Alternative 1 is not approved.
- Addresses the southbound issue but bypasses the commercial area of Bennett.
- Ignores a direct southern route, but the new roads that parallel I-70 will help develop commercial activity.
- Should be eliminated. (9 comments)
  - Too complicated.
  - Does not provide service to the most lots and is expensive.
  - The cost potentially associated with constructability of the road is not appealing. This alternative has potential to impact endangered species, and affect park and recreation areas.
  - Too costly, with two extra bridges. Impacts a fragile wildlife environment.
  - Requires the construction of frontage roads which is an unnecessary waste of resources.
  - Don't like this because I'd have to use frontage roads to get home.
  - No point to run two roads parallel to I-70. This would cause congestion at all ramp points from residents waiting behind semis, and would add time and frustration to community members commute.
  - Has direct environmental and wildlife impact with new frontage roads.
- Opposed to this alternative if it results in private property acquisition.
- Would depress or decrease home values if current access to I-70 was reduced or disrupted.
- Would remove a house plus many trees for frontage roads/new ramp connections.
- Traffic lights at Converse Road to the north simply make no sense. Bennett solving their own problem (i.e. that the town was foolishly built on both sides of the UPRR) would simply shift their problems to the south, especially at I-70 both eastbound and westbound.
- Frontage roads may prove difficult and disruptive considering truck traffic.

### **Alternative 4 – East Railroad Crossing with East Kiowa-Bennett Alignment**

- Like this alternative because it does not include Converse Road. Although the cost would be more, it affects less farmer's ground.
- My favorite because of new interchange at I-70 and Kiowa Bennett Road.
- Maybe okay, depending on need to move interchange to the east.

- Alternative 4 may favor light industrial development (included in County's new master plan).
- Better than Alternative 2 but not better than Alternative 1. Try to minimize or eliminate impacts to parks and rec areas and endangered species habitat.
- Should be eliminated (7 comments)
  - Does not accomplish much improvement and is a waste of money.
  - Complicated and does not resolve what needs to be resolved.
  - Directly impacts a resident and their large amount of active farmland. Any alternative that impacts a member of the community should not be an option.
  - It is a crazy idea to make a new road leading to an interchange through private property, just to be in compliance with CDOT's regulation. Very expensive way of directing people to go out of their way to get on I-70.
  - Requires the displacement of people who have lived here for generations and serves no purpose.
  - North-south traffic would have to go out of direction (go east to go west). (2 comments)
- A lot of land would be taken to the south of I-70 for a new Kiowa-Bennett Road east-west alignment south of I-70.
- The high cost of land could delay the acquisition process.

#### Comments Common to Alternative 1, 2 and 4

- The elimination of the two existing ramps near the Kiowa-Bennett Road interchange will cause problems for residents east of Bennett. If these ramps are eliminated, improvements will need to be made at the existing Strasburg interchange (which is already operating poorly and couldn't handle additional traffic). (2 comments)
  - Local businesses would be impacted if the Exit 304 westbound off-ramp were removed or eliminated.
  - The Strasburg interchange is narrow and has poor sight distance, so people use the Colfax interchange instead.
  - Closing the Lady Bird Hill interchange will have a negative effect for future industrial/commercial development along US 36 from the railroad underpass to Strasburg. A master plan for this area is currently underway by Arapahoe County. It appears this study was not considered in the SH 79 PEL.
  - The study indicates that 2,500 cars per day utilize the current interchange. A large portion of this traffic originates in the Strasburg area. Should the interchange be closed, the traffic originating in Strasburg would be forced to use the Strasburg interchange (Exit 310). The Strasburg interchange is an eclectic collection of access roads funneling into a narrow bridge, which have been marginally functional for years. The interchange and access via Wagner Street to US 36 only operates because of the low traffic count. The addition of thousands of cars per day will cause unacceptable traffic issues unless the interchange is re-designed and modified as part of this project.
- Keep Colfax/US 36 westbound access open with Alternatives 1 and 2.
- Don't fix something that isn't broken/the problem doesn't need to be resolved. (3 comments)
  - All of the alternatives are pointless, a waste of resources, time, and money. The alternatives affect the community in a negative way.

- No need to mess with I-70. Exit 306 currently works fine, especially westbound exit to new US 36/Colfax Avenue to the northwest.
- The three remaining alternatives would all impact wildlife, people, and connectivity.
- Concerned with Kiowa Creek North Open Space impacts.
- Don't take property at the southeast corner of I-70 and Kiowa-Bennett Road.
- My property will be impacted by all three of your existing options. If you think you are going to get even one inch of my property for your connectivity project, you are in for a fight. I will fight with everything I have.

#### Railroad Grade Separation

- Why consider a railroad bridge – there aren't that many trains.
- Cordella Estates resident concerned about visual and noise impacts to his property located next to the proposed alignment. Cordella Estates subdivision values would depreciate to the point they'd have no resale value at all, especially homes with views to the south/southeast towards either a new flyover or suppressed underpass highway. (SH 79 under the Union Pacific rail line would not be an improvement).
- It was somewhat unclear as to how the grade separation would address the traffic flow in the CBD (the historic shops facing the railroad on US 36 and Front Street) and the Bennett school complex, which generates the highest level of peak traffic flow. The vertical and horizontal distances required for the clearance over the railroad will certainly provide some engineering challenges. Without a modification of traffic flow in the core area, congestion could become worse, rather than better.

#### **Improvement Suggestions**

- Pave E. 38<sup>th</sup> Avenue and 1<sup>st</sup> Street.
- Consider constructing one westbound ramp on Kiowa-Bennett Road.
- Consider other alternatives that address the traffic concerns in the congested sections of the Town of Bennett. Concern that none of the alternatives will address those traffic concerns.
- Consider improvements to the east of 6<sup>th</sup> Street at Colfax, a bit west of the fire station.
- Need four lanes on SH 79 to accommodate trucks from I-76 and oil and gas trucks.
- SH 79 should be extended south from the interchange to CR 6, then west along the section line to Kiowa-Bennett Road. As part of this project CR 6 would then be extended from CR 125 (Brick Center) to the extension of SH 79. This simple plan is consistent with the Town of Bennett's Master Plan which indicates massive development south of I-70. CR 6 would become a major east-west collector from Manila road to the Strasburg Road allowing residents easy access to the Bennett commercial district and the interstate interchange at Bennett. This plan also preserves Arapahoe County Open Space at the corner of road 6 and Kiowa Bennett road. As the route follows existing roads and ROW, the acquisition cost and disruption of area residents is minimal. This plan would also allow the existing interchange to remain intact saving millions of dollars. This differs from Alternative 3 in that there would be intersections, not wide swooping curves that prioritize non-stop traffic on SH79.

### Railroad Grade Separation

- Construct improvements only in the northern section of the project area. (6 comments)
  - It would make more sense to construct SH 79 from the north to Colfax. (2 comments)  
Stop there! This will solve the problem with the railroad crossing.
  - Take SH 79 over the railroad and stop at Colfax Avenue. This gives you access over the railroad which is the only necessary point of construction. Doing anything other than that is a waste of resources, money, and time, in addition a pointless act of damage to the environment.
  - Most concerned with the at-grade crossing of the railroad in town, which creates safety issues. But, I understand there is no good way to improve this.
  - Do whatever you need to do in old town Bennett and Adams County, but leave Arapahoe County alone. Get across railroad tracks any way you want, but don't include Kiowa-Bennett Road.
  - Add another alternative that simply addresses the problem of access over the railroad and stopping at Colfax Avenue.

### **General Comments**

- It's apparent much analysis and hard work has been accomplished. Keep up the good work. Thank you.
- We really appreciate the meeting to learn and discuss this strategic project.
- As a landowner and provider of open space, outdoor enjoyment and trail connections for public use, we appreciate your work in gathering broad input for this study and its significant implications for the future of the Bennett area. Thank you for the open house and for taking our comments and feedback.
- Consider accommodating bicycle traffic along Kiowa-Bennett Road. (2 comments)
- The Strasburg interchange currently has no pedestrian access.
- Open Space has funded trail access north along Kiowa-Bennett from Antelope Hills, under I-70 (Bennett's application). Alternatives need to allow for that trail.
- Concern regarding construction impacts, especially if the Kiowa-Bennett/I-70 bridge is out of service and traffic is required to travel out of direction to access US 36 and I-70.
- Please take into consideration the truck traffic on Kiowa Bennett/SH 79. I live six miles south of Bennett on CR 137. In the last nine months the truck traffic has tripled. The oil well traffic has now entered the area with all the other truck traffic. Oil well trucks ran in groups of 6-8 trucks coming into the new wells that are being drilled. These trucks need to be separated and be able to move through or around Bennett without bottling the traffic around the Love's and King Soopers area. Kiowa Bennett Road is a major road for through traffic without going to Limon or on E-470, and now that it is paved all the way to Fountain, the traffic is increasing a lot.
- From Denver we always use I-70 and exit 306.
- Drainage from northeast of Kiowa-Bennett Road/I-70 comes across Kiowa-Bennett Road and impacts the property on the northwest corner of Kiowa Bennett Road/I-70. The culvert needs inspected and cleaned.
- The southwest parcel of Old Victory Road was a city dump until the 1970's.
- The do-nothing option should have been listed for comments.

- People knew there wasn't a full interchange on Kiowa-Bennett Road when they moved here, but came anyway. The people wanting a change are the ones who caused the problem in the first place. They want quick access to get to the Denver metro area, but if it is important to get to the big city that quick they should have never moved here. They truly don't "live" here anyway, they only sleep here and spend the majority of their waking hours back in the city, filling our schools with problems.
- I do not feel the current study proposals adequately address the long term traffic needs of the area. These studies should be re-defined and re-prioritized before moving ahead.
- The proposals for closing the Lady Bird Hill interchange were not publicized to Strasburg area residents.



# APPENDIX H

## FHWA PEL QUESTIONNAIRE







## FEDERAL HIGHWAY ADMINISTRATION PLANNING/ENVIRONMENTAL LINKAGES QUESTIONNAIRE

### SH 79 and Kiowa-Bennett Corridor PEL Study

Date Prepared: 10/29/13

This questionnaire is intended to act as a summary of the planning process and ease the transition from planning to a National Environmental Policy Act (NEPA) analysis. Often, there is no overlap in personnel between the planning and NEPA phases of a project, so consequently much (or all) of the history of decisions made in the planning phase is lost. Different planning processes take projects through analysis at different levels of detail. Without knowing how far, or in how much detail a planning study provided, NEPA project teams are not aware of and may often re-do work that has already been done. This questionnaire is consistent with the 23 CFR 450 (Planning regulations) and other FHWA policy on Planning and Environmental Linkages (PEL) process.

The Planning and Environmental Linkages study (PEL Study) is used in this questionnaire as a generic term to mean any type of planning study conducted at the corridor or subarea level which is more focused than studies at the regional or system planning levels. Many states may use other terminology to define studies of this type and are considered to have the same meaning as a PEL study.

At the inception of the PEL study, the study team must decide how the work will later be incorporated into subsequent NEPA efforts. A key consideration is whether the PEL study will meet standards established by NEPA regulations and guidance. One example is the use of terminology consistent with NEPA vocabulary (e.g. purpose and need, alternatives, affected environment, environmental consequences).

#### 1. Background:

##### a. Who is the sponsor of the PEL study? (state DOT, Local Agency, Other)

Town of Bennett, Adams County, Arapahoe County, Colorado Department of Transportation (CDOT)

##### b. What is the name of the PEL study document and other identifying project information (e.g. sub-account or STIP numbers, long-range plan or transportation improvement program years)?

SH 79 and Kiowa-Bennett Corridor PEL Study

##### c. Who was included on the study team (Name and title of agency representatives, consultants, etc.)?

Town of Bennett, Adams County, Arapahoe County, CDOT, Denver Regional Council of Governments (DRCOG), and Federal Highway Administration (FHWA)

Please see the Acknowledgements section at the beginning of the *PEL Report* for a detailed list of study team participants.

##### d. Provide a description of the existing transportation facility within the corridor, including project limits, modes, functional classification, number of lanes, shoulder width, access control and type of surrounding environment (urban vs. rural, residential vs. commercial, etc.)

The traffic evaluation includes SH 79 and the existing I-70 interchanges at SH 79, Kiowa-Bennett Road, and Colfax Avenue/US 36. The study area limits include approximately three miles of SH 79 (from I-70 to 38th Avenue north of Bennett), approximately three miles of Kiowa-Bennett Road (from the Antelope Hills neighborhood to Colfax Avenue/US 36 north of I-70), about 3.5 miles of Colfax Avenue/US 36 within the Town of Bennett, and about 3.5 miles of I-70.

The environmental resource review area for the project is defined as the area of most likely physical impacts of corridor transportation improvements. To take into account the potential for indirect or secondary effects to community or environmental resources as a result of the potential improvements, the initial area surrounding the roadway corridors was extended to the back property line of area parcels to be more inclusive. This environmental resource review area is generally bounded by Penrith Road to the west, the southern edge of Antelope Hills to the south, Colfax Avenue/US 36 and County Road 2 to the east, and 38th Avenue to the north.

The study area is located in a rural area characterized by a concentrated mixture of residential, commercial, industrial and public/institutional properties surrounded by predominantly agricultural land. With the exception of the Antelope Hills residential subdivision located south of I-70, urban uses are generally located north of I-70 within the Town of Bennett's incorporated boundaries. Bennett consists primarily of low density, single family residential neighborhoods with light industrial development on its northern and eastern edges.

SH 79 is a regional north-south highway that is designated as an oversize load route by CDOT and a hazardous materials route by the Colorado Department of Public Safety. North of I-70, SH 79 is the primary entrance to the Bennett community, which makes it a dominant and focal element in the community. The stretch of highway from I-70 to Colfax Avenue/US 36 is also known as Converse Road. It is a two-lane rural highway with a posted speed limit of 35 miles per hour (MPH) through town and 50 MPH between I-70 and Colfax Avenue/US 36 and north of town to 38th Avenue. North of 38th Avenue, the speed limit is 65 MPH. CDOT recently conducted a speed study along the limits of SH 79 known as Converse Road and is recommending that the speed be reduced from 50 MPH to 45 MPH for approximately one mile both northbound and southbound.

SH 79 has an at-grade crossing of the Union Pacific Railroad (UPRR) in the center of town. The crossing is controlled with gates and lights. CDOT defines the functional classification of SH 79 as a Major Collector. For access control, CDOT classifies SH 79 as Non Rural Arterial (NR-B) between I-70 and 38th Avenue and Rural Highway (R-B) north of 38th Avenue.

Kiowa-Bennett Road provides north-south travel from SH 86 in Kiowa in Elbert County (30 miles south of the study area), through Arapahoe County, to the intersection with Colfax Avenue/US 36 north of I-70. The roadway consists of two lanes and is relatively continuous, with a few curves. There is an off ramp for eastbound I-70, but other connections to I-70 are via Colfax Avenue/US 36 and County Road 2 east of Kiowa-Bennett Road. The speed limit along Kiowa-Bennett Road south of Colfax Avenue/US 36 is 45 MPH.

Colfax Avenue/US 36 is a regional east-west two-lane rural highway with a posted speed limit of 35 MPH through town. CDOT defines the functional classification of Colfax Avenue/US 36 as a Major Collector west of the SH 79/Adams Street intersection and as a Local east of the intersection. For access control, CDOT classifies Colfax Avenue/US 36 as a Non Rural Arterial (NR-B) between Penrith Road and Kiowa-Bennett Road. Outside that segment within the study area, Colfax Avenue/US 36 is designated as a Rural Highway (R-B) for access control.

I-70 is a major east-west interstate highway that crosses central Colorado and travels through the middle of the Denver metropolitan area. Within the study area from Milepost (MP) 303.0 to MP 308.0, I-70 is a four-lane divided rural interstate freeway with a posted speed limit of 75 MPH. I-70 has a full diamond-style interchange at SH 79 with stop signs at the ramp intersections providing direct access to Bennett and an eastbound off ramp at Kiowa-Bennett Road, one mile east of SH 79. There is another eastbound off ramp, plus westbound off and on ramps at Colfax Avenue/US 36 and County Road 2, located one mile east of Kiowa-Bennett Road.

Please see the Introduction section of the *PEL Report* and the full *Corridor Conditions Assessment Report* for more detailed information on the existing transportation facilities. Page 474

**e. Provide a brief chronology of the planning activities (PEL study) including the year(s) the studies were completed.**

(Month/year noted below indicates date the activity and documentation was completed.)

- Study Initiation – August 2012
- Data Collection – September 2012
- Existing Conditions Evaluation – December 2012
- Environmental Scan – January 2013
- Purpose and Need Statement – February 2013
- Alternatives Development/Evaluation – June 2013
- Final PEL Study Report – November 2013

Please also see the Agency and Public Coordination section in the *PEL Report* for dates of meetings held during the study.

**f. Are there recent, current or near future planning studies or projects in the vicinity? What is the relationship of this project to those studies/projects?**

A number of plans have been developed that relate to the study area, including plans for the adjacent land use, local transportation plans, and statewide plans. Previous local and regional plans that were considered during the alternatives development process include:

- *Town of Bennett Downtown Planning Study* (2010)
- *2012 Town of Bennett Comprehensive Plan* (2012)
- *Bennett Regional Trail Plan* (2011)
- *Adams County Transportation Plan* (2012)
- *Arapahoe County 2035 Transportation Plan* (2010)
- *Arapahoe County Open Space Master Plan* (2010)
- *I-70 Corridor Economic Assessment* (2011)
- *2035 Metro Vision Regional Transportation Plan* (2011)
- *2035 Statewide Transportation Plan* (2011)

Transportation improvements along SH 79 and Kiowa-Bennett Road are consistent with local and regional plans. Specific roadway improvements are not included in DRCOG’s *Fiscally Constrained 2035 Regional Transportation Plan*. The Kiowa-Bennett Road bridge over I-70 is on the Colorado Bridge Enterprise list as eligible for bridge repair/rehabilitation with FASTER funding, although it has not been included in the current bond program. The realignment of SH 79 with a grade separation at the UPRR is included in the *2012 Town of Bennett Comprehensive Plan* and *Adams County Transportation Plan*. Improved connectivity for Kiowa-Bennett Road at I-70 is included in the *Arapahoe County 2035 Transportation Plan*.

Currently, there are no planned transportation capacity improvement projects within the study area. There are operational and maintenance projects funded in the study area, as well as a new multi-use path. These programmed improvements with committed funding sources are described with the No Action alternative in the Alternatives Development and Analysis section of the *PEL Report*.

**2. Methodology used:**

**a. What was the scope of the PEL study and the reason for completing it?**

The scope of the PEL study was to work with stakeholders to determine the short-term and long-term transportation needs of the SH 79 and Kiowa-Bennett Road corridors around the Bennett area, to

address the increasing congestion and safety issues, and to identify transportation improvement alternatives that balance anticipated access needs with regional mobility and connectivity.

**b. Did you use NEPA-like language? Why or why not?**

Yes, NEPA-like language was used to provide the framework for the implementation of the study recommendations as funding is available and to be used as a resource for future NEPA documentation (future Categorical Exclusions or Environmental Assessment).

**c. What were the actual terms used and how did you define them? (Provide examples or list)**

The following terms in this PEL study are the same in meaning to those used in NEPA:

- Purpose and Need
- Independent Utility
- No Action Alternative
- Recommended Alternative

**d. How do you see these terms being used in NEPA documents?**

The terms in this PEL study will be used in NEPA documents in the same way as they were used in the PEL study.

**e. What were the key steps and coordination points in the PEL decision-making process? Who were the decision-makers and who else participated in those key steps? For example, for the corridor vision, the decision was made by state DOT and the local agency, with buy-in from FHWA, the USACE, and USFWS and other resource/regulatory agencies.**

The primary decision-makers in the study process were the agency participants involved in the Technical Advisory Committee (TAC), including Town of Bennett, Arapahoe County, Adams County, CDOT, DRCOG, and FHWA. Concurrence was gained at the TAC meetings at the following key study milestones:

MILESTONE	EXPECTED SCHEDULE	MEANS OF CONCURRENCE
TAC Charter	Technical Advisory Committee Meeting #2 September 2012	Committee member signatures
Purpose and Need Statement	Technical Advisory Committee Meeting #3 October 2012	Committee acceptance of meeting notes
Evaluation Criteria	Technical Advisory Committee Meeting #4 December 2012	Committee acceptance of meeting notes
Alternatives Developed	Technical Advisory Committee Meeting #5 January 2013	Committee acceptance of meeting notes
Level 1 Alternatives Screening Results	Technical Advisory Committee Meeting #5 January 2013	Committee acceptance of meeting notes
Level 2 Alternatives Screening Results	Technical Advisory Committee Meeting #8 April 2013	Committee acceptance of meeting notes
Level 3 Alternatives Screening Results	Technical Advisory Committee Meeting #9 June 2013	Committee acceptance of meeting notes
Final Study Recommendations	Study Completion August 2013	Committee member signatures on a support page; Agency support letter and/or Resolution

The study was coordinated with local, State and Federal resource agencies with distribution of information to representatives at two points during the study. Early in the study a letter and study area map were mailed as an introduction to this PEL process and request for input on the existing conditions and concerns within the study area. A second letter was mailed serving as an update on the study following Level 3 alternatives screening. A summary of the resource agency coordination and input is included in Appendix E of the *PEL Report*.

**f. How should the PEL information be presented in NEPA?**

The PEL study documentation was prepared consistent with NEPA and allows the future NEPA study effort to readily extract pertinent data from the reports. The PEL alternatives evaluation process included developing screening criteria based on the project Purpose and Need, developing a full range of alternatives, and documenting the elimination of alternatives to limit the need for consideration during future NEPA processes. Three levels of screening occurred to evaluate alternatives. The alternatives screening process included public involvement, and outreach efforts that were conducted with the local agencies and area stakeholders. The screening process is described in detail in the Alternatives Development and Analysis section of the *PEL Report* and can be directly incorporated into a subsequent NEPA document.

Potential steps for proceeding through the NEPA process include identifying possible actions that could be categorically excluded from development of an environmental assessment (EA) or environmental impact statement (EIS). Possibilities include actions identified in the PEL Study as separate project phases, such as the I-70 and SH 79 interchange improvements, which would provide mobility and safety benefits as a stand-alone project. The alternatives screening, environmental overview information, and agency and public coordination completed in the PEL study can be directly referenced in a Categorical Exclusion (CE) document for a separate project phase.

Should the NEPA process result in development of an EA for the overall transportation network improvements or a separate project phase, the Introduction, Purpose and Need, and Agency and Public Coordination sections of the *PEL Report* can be used to develop the Purpose and Need chapter of the EA. The Alternatives Evaluation Summary and Study Recommendations sections of the *PEL Report* can be used as background for the Alternatives chapter. The Affected Environment and Environmental Consequences section, appendices, and *Corridor Conditions Assessment Report* can provide the starting point to develop more in-depth evaluation and descriptions of the affected environment and expected impacts.

**3. Agency coordination:**

**a. Provide a synopsis of coordination with federal, tribal, state and local environmental, regulatory and resource agencies. Describe their level of participation and how you coordinated with them.**

The study was coordinated with local, State and Federal resource agencies with distribution of information to representatives at two points during the study. Early in the study a letter and study area map were mailed as an introduction to this PEL process and request for input on the existing conditions and concerns within the study area. A second letter was mailed serving as an update on the study following Level 3 alternatives screening. Graphics of the Recommended Alternative and a summary of critical considerations were enclosed for review to identify potential resource impacts and next steps required for future NEPA processes. A summary of the resource agency coordination and input is included in Appendix E of the *PEL Report*.

The following input was received from resource agencies:

- Adams County Parks and Community Resources stated a preference to limit impacts to the Kiowa Creek floodplain and that any new crossings of Kiowa Creek accommodate a public trail running north/south along the creek. Page 477

- Arapahoe County Open Spaces opposed any roadway alignment within the Kiowa Creek North Open Space and indicated that mitigation to minimize impacts to the Kiowa Creek riparian area will be required during construction.
- Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division indicated that the need for an Air Pollution Emission Notice permit should be determined during the NEPA process.
- Colorado Parks and Wildlife, NE Region recommended that the local agencies employ a collaborative approach with other developments to maintain wildlife habitat in as whole a state as possible and indicated that additional field surveys will be required during NEPA.
- U.S. Army Corps of Engineers (USACE) indicated that impacts to wetlands and open water features must be avoided, minimized, or mitigated and that a Section 404 permit would likely be necessary in future project efforts.
- U.S. Fish and Wildlife Service (USFWS) noted that habitat surveys will be needed during the NEPA process. They appreciate efforts to avoid impacts to migratory birds.

No response was received by the following agencies:

- Colorado Department of Health and Environment, Water Quality Control Division
- Colorado State Historic Preservation Officer (SHPO)
- Town of Bennett Parks and Recreation
- Urban Drainage and Flood Control District
- U.S. Department of Agriculture, Natural Resource Conservation Service
- U.S. Environmental Protection Agency (EPA)

**b. What transportation agencies (e.g. for adjacent jurisdictions) did you coordinate with or were involved during the PEL study?**

Coordination occurred between:

- |                   |         |
|-------------------|---------|
| ■ Town of Bennett | ■ CDOT  |
| ■ Arapahoe County | ■ DRCOG |
| ■ Adams County    | ■ FHWA  |

As part of the TAC, each of these agencies had a high level of involvement throughout the PEL study and concurred with each step of the process. Please see the Agency and Public Coordination section of the *PEL Report* for more description of the coordination efforts between transportation agencies.

**c. What steps will need to be taken with each agency during NEPA scoping?**

Scoping meetings will be conducted during subsequent NEPA processes to inform the resource and regulatory agencies of the findings of the PEL study and to discuss the anticipated impacts from the NEPA proposed action. Information from the PEL study will be used in scoping, such as the *Corridor Conditions Assessment Report* data and mapping, and the alternatives development and analysis process and findings used to refine the Recommended Alternative. It will be determined at the scoping meetings if there are additional agency concerns or if there are additional data/information that was not available during the PEL study.

**4. Public coordination:**

**a. Provide a synopsis of your coordination efforts with the public and stakeholders.**

Stakeholder involvement was emphasized throughout the PEL process and feedback was solicited from the agency and public partners at key decision points to foster acceptance of recommendations. Please see the Agency and Public Coordination section of the *PEL Report* for a

summary of the public and stakeholder involvement process, which included ten TAC meetings, two general public meetings, and small group meetings with groups affected by the project, including emergency providers, the school district, Union Pacific Railroad, and Arapahoe County Open Spaces.

**5. Purpose and Need for the PEL study:**

**a. What was the scope of the PEL study and the reason for completing it?**

The scope of and the reason for the PEL study was to work with stakeholders to determine the short-term and long-term transportation needs of the SH 79 and Kiowa-Bennett Road corridors around the Bennett area, to address the increasing congestion and safety issues, and to identify transportation improvement alternatives that balance anticipated access needs with regional mobility and connectivity.

The PEL study was completed to streamline future NEPA processes with documentation of the Purpose and Need, alternatives development and evaluation process. The PEL alternatives evaluation process included developing screening criteria based on the project Purpose and Need, developing a full range of alternatives, and documenting the elimination of alternatives to limit the need for consideration during future NEPA processes.

**b. Provide the purpose and need statement, or the corridor vision and transportation goals and objectives to realize that vision.**

The Purpose and Need was developed in coordination with agency stakeholders with review by the general public. Please see the Purpose and Need Statement section of the *PEL Report*.

Purpose of the Project

The purpose of the SH 79 and Kiowa-Bennett corridor project is to improve regional connectivity, reduce conflict and delay at the SH 79 at-grade crossing of UPRR, and address safety concerns along the major corridors within the study area for existing and future conditions.

Need for the Proposed Action

The SH 79 and Kiowa-Bennett Road corridors have regional operational deficiencies, including a lack of connectivity to I-70. Both roadways are important transportation corridors supporting mobility and economic activity in Bennett and Adams and Arapahoe Counties for existing and future land use and transportation demand conditions. Improvements are needed to:

- Improve regional mobility and connectivity
- Reduce conflict and delay at the at-grade railroad crossing
- Address safety concerns

**c. What steps will need to be taken during the NEPA process to make this a project-level purpose and need statement?**

It is anticipated that funding for the entire Recommended Alternative improvements will not be available all together. If smaller components of the project are implemented individually, such as the potential separate projects identified in the *PEL Report*, each separate project will likely need to develop a Purpose and Need statement. Those project-level Purpose and Need statements are expected to be based off the Purpose and Need developed with the PEL study, but focused on the specific needs of the smaller project area.

**6. Range of alternatives: Planning teams need to be cautious during the alternative screen process; alternative screening should focus on purpose and need/corridor vision, fatal flaw analysis and possibly mode selection. This may help minimize problems during discussions with resource agencies.** Page 479

**Alternatives that have fatal flaws or do not meet the purpose and need/corridor vision cannot be considered viable alternatives, even if they reduce impacts to a particular resource. Detail the range of alternatives considered, screening criteria and screening process, including:**

**a. What types of alternatives were looked at? (Provide a one or two sentence summary and reference document.)**

The range of alternatives were developed to address the issues identified in the Purpose and Need, including the need to improve regional connectivity from Kiowa-Bennett Road to north of Bennett and from I-70 to north of Bennett on SH 79, to reduce delay at the at-grade railroad crossing, and to improve identified safety concerns with sight distance and narrow shoulders on study area roadways.

The initial alternatives considered for the project were developed based on input from the TAC, public input, and the technical input of the project team. Overall, the project focused on alternatives that remove traffic from the downtown Bennett area and provide a grade-separated railroad crossing location, as well as provide additional Kiowa-Bennett Road access for regional users. The No Action alternative was included as a baseline for comparison to the potential improvement alternatives.

Please see the Alternatives Development and Analysis section of the *PEL Report* for more details on the range of the alternatives considered.

**b. How did you select the screening criteria and screening process?**

The alternatives development and evaluation process included developing screening criteria based on the project Purpose and Need, developing a full range of alternatives, and documenting the elimination of alternatives to limit the need for consideration during future NEPA processes.

Ten build alternative concepts were developed and subjected to a Level 1 “fatal flaw” screening to eliminate alternatives that do not meet the project Purpose and Need. Seven alternatives were carried forward from the Level 1 screening and were refined to complete a more detailed analysis for a Level 2 screening to determine how each alternative meets the Purpose and Need and identify what impacts each alternative would have. Three build alternatives were carried forward after the Level 2 evaluation and were further refined through additional conceptual design and traffic operations analysis in Level 3 screening. The TAC concurred with the final Recommended Alternative and it is described as four potential separate project phases in the *PEL Report*.

Evaluation criteria were established for each level of the screening process prior to the development and analysis of alternatives. These criteria were developed based on the project Purpose and Need by the project TAC, comprised of Town of Bennett, Adams County, Arapahoe County, CDOT, DRCOG, and FHWA. This group ultimately concurred with the evaluation criteria and alternatives to carry forward at the end of each screening process.

**c. For alternative(s) that were screened out, briefly summarize the reasons for eliminating the alternative(s). (During the initial screenings, this generally will focus on fatal flaws)**

In the Level 1 screening, alternatives that did not reduce travel time on the SH 79 and Kiowa-Bennett Road corridors, reduce the number of vehicles crossing at the at-grade railroad crossing, or address identified safety concerns were eliminated based on not meeting the Purpose and Need. During Level 2 screening, the elimination of alternatives focused on a more detailed evaluation of the project Purpose and Need and analyzed impacts to travel time and truck movements within the project area, reduction in the at-grade crossing delay, emergency response time, potential



reductions in truck and hazardous material conflicts within downtown Bennett, environmental impacts, right-of-way (ROW) needs, phased implementation opportunities, and project costs.

During the Level 3 screening, alternatives were eliminated based on a comparison of evaluation criteria showing where there was a notable difference between the remaining alternative concepts and input from the TAC, area stakeholders, local agency elected officials, and the general public. In the Level 3 screening, the Recommended Alternative was identified to carry forward into future NEPA processes because it was determined to meet the Purpose and Need and project goals to the highest degree while minimizing environmental and community impacts.

All screening was coordinated with TAC members. Please see the Alternatives Development and Analysis section of the *PEL Report* for more detailed information about each level of evaluation.

**d. Which alternatives should be brought forward into NEPA and why?**

The No Action alternative will be brought forward into NEPA to be used for baseline comparison purposes. Also, one action alternative was determined to clearly meet the Purpose and Need to the highest degree while minimizing environmental and community impacts. The Recommended Alternative recommended to be carried forward is Alternative 1: East Railroad Crossing with Full Kiowa-Bennett Road Diamond Interchange.

Please see the Study Recommendations section of the *PEL Report* for more information about the Recommended Alternative.

**e. Did the public, stakeholders, and agencies have an opportunity to comment during this process?**

Yes, outreach included ten TAC meetings, two general public meetings, and small group meetings with groups affected by the project including emergency providers, the school district, Union Pacific Railroad, and Arapahoe County Open Spaces.

Please see the Agency and Public Coordination section of the *PEL Report* for an overview of the opportunities for the public, stakeholders, and agencies to engage and inform the study process.

**f. Were there unresolved issues with the public, stakeholders and/or agencies?**

This PEL study provides the framework for the long-term implementation of the Recommended Alternative transportation system improvements as funding is available. Several specific design decisions will need to be made in the next steps of project development.

For the SH 79 railroad grade separation, both the overpass and underpass options will be carried forward into the NEPA process for a final decision when there is more information on topographic survey, geotechnical conditions, and utility locations.

This PEL study identified potential access locations along the SH 79 realignment consistent with access code requirements. However, the specific allowable accesses along the SH 79 realignment will need to be determined in future project implementation phases.

The traffic analysis completed for this PEL study shows that the diamond interchange configuration at the I-70 and Kiowa-Bennett Road interchange operates acceptably under 2035 conditions. However, the specific interchange configuration will be determined with further analysis during future NEPA processes.

**7. Planning assumptions and analytical methods:**

**a. What is the forecast year used in the PEL study?**

The forecast year in the PEL Study was 2035.

**b. What method was used for forecasting traffic volumes?**

The travel forecast modeling for the traffic analysis of alternatives was conducted based on the DRCOG 2035 regional travel demand model with modifications to the socioeconomic data and network based on coordination with DRCOG and the local agencies regarding current and future land use in the study area.

**c. Are the planning assumptions and the corridor vision/purpose and need statement consistent with the long-range transportation plan?**

Yes, the travel forecast modeling was conducted based on the DRCOG fiscally-constrained model. The project Purpose and Need is consistent with the DRCOG 2035 Regional Transportation Plan and local transportation planning elements.

**d. What were the future year policy and/or data assumptions used in the transportation planning process related to land use, economic development, transportation costs and network expansion?**

Travel forecast modeling data were based on the DRCOG 2035 fiscally-constrained regional model with modifications to the socioeconomic data and network based on coordination with DRCOG and the local agencies regarding current and future land use in the study area.

**8. Environmental resources (wetlands, cultural, etc.) reviewed. For each resource or group of resources reviewed, provide the following:**

**a. In the PEL study, at what level of detail was the resource reviewed and what was the method of review?**

Data collection to identify the existing resources in the area was conducted in the fall of 2012 using readily available resources resulting in data from file searches from agencies with jurisdictions, GIS mapping, a literature review, and windshield surveys. In addition, the study was coordinated with local, State and Federal resource agencies, including:

- Adams County Parks and Community Resources
- Arapahoe County Open Spaces
- CDPHE Air Pollution Control Division
- CDPHE Water Quality Control Division
- Colorado Parks and Wildlife
- SHPO
- Town of Bennett Parks and Recreation
- USACE
- United States Department of Agriculture, Natural Resource Conservation Service
- EPA
- USFWS
- Urban Drainage and Flood Control District

Information was distributed to representatives of the resource agencies at two points during the study. Early in the study a letter and study area map were mailed as an introduction to this PEL process and requested input on the existing conditions and any known resources or issues of concern in the study area. A second letter was mailed following the Level 3 alternatives screening. A graphic of the Recommended Alternative and a summary of critical considerations were enclosed for review to identify potential resource impacts and next steps required for future NEPA processes.

A review of each resource is included in the *Corridor Conditions Assessment Report*. A summary of the resource agency input is included in the appendix of the *PEL Report*.

**b. Is this resource present in the area and what is the existing environmental condition for this resource?**

The *Corridor Conditions Assessment Report* provides an overview of the existing conditions for air quality, hazardous materials, floodways and 100-year floodplains, historical and archaeological resources, mines, water wells, parks and recreation, biological resources, wetlands, noise, community impacts, and farmland resources in the project area. Please see the Environmental Overview section of the *PEL Report* for the potential impacts of the Recommended Alternative.

**c. What are the issues that need to be considered during NEPA, including potential resource impacts and potential mitigation requirements (if known)?**

The following presents a summary of the resources potentially impacted by the Recommended Alternative. Avoidance and minimization through design will need to be documented as each project is carried forward in NEPA and design. Please see the Affected Environment and Environmental Consequences section of the *PEL Report* for more information.

RESOURCE	ISSUES TO CONSIDER DURING NEPA
Air Quality	Moving forward with the NEPA process, air quality impact analysis should be conducted for the Recommended Alternative to determine regional conformity by inclusion in the Regional Transportation Plan and conduct local project-level analysis for carbon monoxide and particulate matter.
Hazardous Materials	Moving into the NEPA process, a hazardous materials assessment, such as a Modified Phase I Environmental Site Assessment, would typically be needed as part of future project development. During the ROW acquisition process, site assessments and/or preliminary site investigations will be performed for properties with potential hazardous materials, and may require remediation prior to acquisition or development.
Floodways and 100-year Floodplains	Two Federal Emergency Management Agency-designated floodplains occur in the study area. Although no bridge crossings are proposed over the floodplains, some impacts to the floodplain could occur under the Recommended Alternative. As part of the NEPA process, floodplain modeling will be required to assess future floodplain impacts and may require a Conditional Letter of Map Revision and Letter of Map Revision.
Historic Resources	The Mount View/Bennett Cemetery is adjacent to the proposed improvements of SH 79, but the proposed roadway alignment was shifted west to avoid impacts to land from the Cemetery. The cemetery was surveyed in 1982 and was recommended to be “not eligible” by the Colorado Historical Society. However, no official determination has been made by the SHPO. When the project reaches the NEPA phase and final design, impacts to this resource should be avoided.  The Kansas Pacific Railroad within the study area is potentially historic. The SHPO identifies this segment of the railroad as “field eligible,” although no official determination has been made. Minimizing impacts to this resource should be discussed as part of ongoing efforts with the railroad during the NEPA phase.
Archeological Resources	Three prehistoric archaeological sites and one paleontological resource are located in the study area. Due to the sensitive nature of these resources, the sites cannot be mapped. As part of future NEPA processes, a registered archeologist will locate the resources and work with the project team to avoid, minimize and mitigate resource effects.

RESOURCE	ISSUES TO CONSIDER DURING NEPA
Mines	<p>Two saleable mining sites occur in the study area, both privately owned by one individual. These sites are the Mitchell Pit and Mitchell Pit #2 located southeast of Bennett adjacent to Colfax Avenue/US 36. These sites are proposed to be impacted by the realigned SH 79 as part of the Recommended Alternative.</p> <p>As part of the pre-construction process, mineral claims and leases will need to be identified and either permission to use the land surface in these areas or re-location of the roadway will need to occur. Where access to mineral resources may be restricted, the proponents will provide compensation for damage, access rights, and easements with mine owners, claimants, and lease holders. Mine operators may need to be provided with mine access during construction.</p> <p>Air quality monitoring at the sand and gravel pits is recommended to determine the extent of TSPs and particulate matter they emit. On-site water availability during roadway construction could also be an issue.</p>
Water Wells	<p>The Recommended Alternative may potentially impact up to five wells along the existing SH 79 alignment due to obtaining additional ROW. In addition, there are two wells near Old Victory Road and SH 79 that may be impacted. One well south of Old Victory Road is classified for irrigation, but all of the potentially-impacted wells are classified as “other” usages, which means that they are likely used as monitoring wells.</p> <p>Consideration of water well resources during the NEPA process will be necessary and will include a detailed analysis of the project design impacts to existing water wells, a plan for avoidance of existing wells during and after construction, and identification of the necessary permits for construction activities.</p>
Parks and Recreation Resources	<p>None of the existing parks and recreation resources identified within the study area are within the proposed ROW of the Recommended Alternative. Future planned trail systems will be coordinated during the NEPA process to ensure collaboration between the Recommended Alternative alignment and the area’s future planned trail network.</p>
Threatened and Endangered Species	<p>Two areas of active black-tailed prairie dogs were observed in the study area, which were a large area in a vacant field northeast of the I-70 and SH 79 interchange, and vacant land just north of Truman Avenue on the north side of Bennett. Black-tailed prairie dogs may provide nesting habitat for burrowing owls, which are a state Species of Concern and also protected under the Migratory Bird Treaty Act. The habitat east of SH 79 may be impacted by the ROW acquisition of the Recommended Alternative. There is moderate potential for the northern leopard frog and the common garter snake, both State Species of Concern, to occur in the wetland habitat along Kiowa Creek, ditches, ponds, and stormwater detention basins within the study area.</p> <p>Cliff swallows often nest under bridges and within box culverts. Nesting locations may change from year to year, and areas should be re-surveyed prior to construction.</p>
Wetlands and Waters of the U.S. (WUS)	<p>Several irrigation ditches and small stock ponds occur within the study area, but wetlands were generally not associated with the ditches. One potential WUS area that could be impacted by the Recommended Alternative is located north of the I-70 and SH 79 interchange. Kiowa Creek has the potential to sustain fringe wetlands along its banks, although vegetation abutting the creek is marginal for wetland vegetation. The Recommended Alternative may impact Kiowa Creek near the I-70 and Kiowa-Bennett interchange.</p> <p>Under the Section 404 of the Clean Water Act, impacts to WUS, including wetlands and open water features, must be avoided, minimized, or mitigated to ensure that there is no net loss of functions and values of jurisdictional wetlands. CDOT regulates wetlands regardless of USACE jurisdiction. A CDOT Wetland Findings report may be required if permanent wetland impacts exceed 500 square feet or if temporary impacts exceed 1,000 square feet, regardless of whether USACE has jurisdiction.</p>

RESOURCE	ISSUES TO CONSIDER DURING NEPA
Noxious Weeds	No species from the State of Colorado noxious weed list were identified in the study area that are designated for eradication and require prevention of seed production or development of reproductive propagules. Preparation of an Integrated Noxious Weed Management Plan, which would include steps to control existing noxious weeds, would be required during the NEPA process. Weeds in the study area should be mapped during the growing season and an Integrated Weed Management Plan may be warranted to reduce the spread of noxious weeds within the study area.
Noise	No Noise Abatement Category (NAC) A lands exist in the study area, which are those where serenity and quiet are of extraordinary significance. Areas of potential concern for noise impacts include the single family homes located near the proposed SH 79 realignment, and the neighborhood located southwest of the UPRR tracks which is near the railroad grade separation. A detailed noise study will be required during future NEPA processes.
Community Impacts	During the NEPA process, impacts to neighborhoods, businesses, and residences should be identified and avoided where possible. ROW acquisition must conform to the requirements set forth in the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and the Uniform Relocation Act Amendments of 1987 (as amended).
Prime and Unique Farmlands	The Natural Resources Conservation Service (NRCS) identified several categories of soil types that are protected in the study area, which is a contributing factor in determining if farmland is considered prime or unique. The protected soil types exist along the existing SH 79 alignment and along the SH 79 realignment.  A detailed analysis of the project design impacts to existing prime and unique farmlands, identification of the necessary permits for construction activities, and an assessment of the need for groundwater monitoring before, during, and after the project are needed during the NEPA phase. Ongoing coordination with local planners and NRCS representatives is also needed to ensure that changes resulting from any recommendations are compatible with environmental regulations and the local planning offices.

**d. How will the data provided need to be supplemented during NEPA?**

See the table above and the Affected Environment and Environmental Consequences section of the *PEL Report* for what supplemental data is needed for future NEPA processes. Depending on the timing of future NEPA efforts, resources may require an assessment due to new regulations. Data that is time dependent will need to be updated to obtain more detailed information during NEPA.

Consultations with appropriate agencies will also be required. These tasks are described below:

- Air Quality:
  - Conduct a local project-level air quality impact analysis for carbon monoxide and particulate matter, as required.
  - Coordinate with the CDPHE, Air Pollution Control Division on local project conformity requirements.
- Hazardous Materials
  - Conduct a Modified Phase I Environmental Site Assessment.
- Floodways and 100-year floodplains:
  - Model floodplains to assess future floodplain impacts.
  - Develop a Conditional Letter of Map Revision and/or Letter of Map Revision.
- Historic Resources:
  - Consult with the SHPO under Section 106 regarding potentially eligible historic structures.

- Consult with SHPO to define an appropriate Area of Potential Effects (APE) for historic and archaeological resources.
- Identify and invite relevant government agencies, organizations, and tribes to participate as consulting parties in the Section 106 process.
- Conduct intensive-level field surveys in all areas that may be subject to project impacts. All identified cultural resources will be evaluated or re-evaluated for National Register of Historic Places (NRHP) eligibility and documentation submitted to SHPO for concurrence.
- Evaluate effects to NRHP-eligible or listed properties from the project by applying federal Criteria of Adverse Effect.
- Consult with SHPO and other consulting parties to resolve any adverse effects through project redesign/avoidance, minimization of impacts, or mitigation.
- Document the resolution of identified adverse effects and mitigation prescriptions in a Memorandum of Agreement with FHWA, CDOT, SHPO and if appropriate, consulting parties.
- Archeological Resources:
  - Consult with a registered archeologist to locate the existing archaeological and paleontological resources within the site.
  - Avoid, minimize, and mitigate impacts to the archaeological and paleontological resources during the NEPA phase.
- Mines:
  - Identify existing mineral claims and leases on the current mines in the study area.
  - Obtain permission to use the land surface or relocate the proposed roadway.
  - The project team will provide compensation for damage, access rights, and easements with the mine owners, claimants, and lease holders.
  - Maintain mine access to mine operators during construction.
  - Monitor air quality at the existing pits.
- Water Wells:
  - Conduct a detailed analysis of the project design impacts to existing water wells.
  - Develop a plan for avoidance of existing wells during and after construction and identify necessary permits for construction activities.
  - Conduct an assessment of the need for groundwater monitoring before, during, and after the project.
  - Coordinate with local planners and other Town officials.
- Parks and Recreation
  - Confirm that a Section 4(f) evaluation for parks and recreation resources is not required.
  - Coordinate with local agencies about the future planned trail network in the project area.
- Threatened and Endangered Species and Wildlife:
  - Consult with the U.S. Fish and Wildlife Service during the NEPA process to determine if there are existing species identified under the Endangered Species Act in the study area.
  - Conduct surveys for the northern leopard frog and the common garter snake in the wetland habitat along Kiowa Creek, ditches, ponds, and stormwater detention basins prior to construction.

- Conduct preconstruction surveys following methods set forth by the USFWS, CDOW or CDOT Section 240 Protection of Migratory Birds Standard Specification.
- Conduct surveys for nesting cliff swallows prior to construction.
- Wetlands and Waters of the U.S.:
  - Conduct an approved jurisdictional determination for any wetlands that could be affected.
  - Obtain a Clean Water Act Section 404 permit to authorize placement of dredge or fill material in any waters of the U.S., including wetlands, if necessary.
  - Develop a CDOT Wetland Findings report, if necessary.
- Noxious Weeds
  - Prepare an Integrated Noxious Weed Management Plan.
- Noise:
  - Conduct a detailed noise study.
- Community Impacts:
  - Evaluate mitigation measures related to affected business or residences.
  - Ensure that any ROW acquisition proceedings conform to the requirements set forth in the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and the Uniform Relocation Act Amendments of 1987 (as amended).
- Prime and Unique Farmland:
  - Consult with the Natural Resources Conservation Service regarding the status of prime or unique farmland in the study area.
  - Conduct a detailed analysis of impacts to prime and unique farmland areas.
  - Identify and obtain necessary construction permits within prime and unique farmland areas.
  - Conduct an assessment of the need for groundwater monitoring in the project area.
  - Coordinate with local planners and Natural Resources Conservation Service to ensure compliance with environmental regulations.

**9. List environmental resources you are aware of that were not reviewed in the PEL study and why? Indicate whether or not they will need to be reviewed in NEPA and explain why.**

An environmental resource commonly encountered with new grade separations that was not considered in this PEL study was visual assessment. The visual nature of the railroad grade separation was noted in the preliminary evaluation of an underpass versus overpass option. A visual assessment of the potential improvements will need to be reviewed in the NEPA processes. Direct consultation with and concurrence from resource agencies were not conducted as a part of this PEL study and will need to be performed in NEPA.

**10. Were cumulative impacts considered in the PEL study? If yes, provide the information or reference where it can be found.**

Cumulative impacts were briefly described for some resources included in the *Corridor Conditions Assessment Report*. A cumulative impact assessment for the entire SH 79 and Kiowa-Bennett corridors was not conducted. Additional analysis is expected during the NEPA process as separate projects move forward. Additional coordination with the resource agencies should be conducted to determine a study area for each resource.

**11. Describe any mitigation strategies discussed at the planning level that should be analyzed during NEPA.**

Mitigation strategies were only developed schematically in this PEL study and are described with each resource considered in the Affected Environmental and Environmental Consequences section of the *PEL Report*. The detailed mitigation measure for each impacted resource will need further analysis during the NEPA phase. Such mitigation measures may include noise mitigation, wetland replacement, and/or construction scheduling to avoid wildlife nesting activities.

**12. What needs to be done during NEPA to make information from the PEL study available to the agencies and the public? Are there PEL study products which can be used or provided to agencies or the public during the NEPA scoping process?**

Relevant planning products that are readily available to a subsequent NEPA process include:

- *Corridor Conditions Assessment Report* – January 2013
- *Purpose and Need Statement Technical Memorandum* – February 2012
- *Evaluation Criteria (Level 1) Technical Memorandum* - January 2013
- *Evaluation Criteria (Level 2) Technical Memorandum* – March 2013
- *Level 3 Evaluation of Alternatives Technical Memorandum* – June 2013
- *Final PEL Report* – November 2013

All documentation will be posted on the project website ([www.sh79pel.com](http://www.sh79pel.com)) and will also be readily available to the public through the offices of each TAC member agency.

**13. Are there any other issues a future project team should be aware of?**

- a. Examples: Controversy, utility problems, access or ROW issues, encroachments into ROW, problematic land owners and/or groups, contact information for stakeholders, special or unique resources in the area, etc.**

The Recommended Alternative layout and associated impacts are based on a conceptual level of design. As the potential separate projects move to NEPA and preliminary design, issues to be addressed include:

- Coordination with UPRR regarding the grade separated crossing and whether it will be an underpass or overpass of the railroad
- Locations of future accesses allowable along the new SH 79 alignment
- Interchange ramp configuration for the I-70 and Kiowa-Bennett Road interchange
- Construction phasing for the reconstruction of the existing roadways and bridges reconstruction while maintaining traffic operations on I-70, SH 79, and Kiowa-Bennett Road and minimizing impacts to the traveling public





# **APPENDIX I**

## **AGENCY SUPPORT LETTERS**





U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Colorado Division**

January 9, 2014

12300 W. Dakota Ave., Ste. 180  
Lakewood, Colorado 80228  
720-963-3000

Page 491

Bryan Weimer  
Arapahoe County  
Transportation Division Manager  
6924 South Lima Street  
Centennial, CO 80112

**Subject: SH 79 Planning and Environmental Linkage (PEL) Process**

Dear Mr. Weimer:

This letter is to acknowledge the completion of the Planning and Environmental Linkage study initiative undertaken by Arapahoe County, the Town of Bennett, the Colorado Department of Transportation (CDOT), and David Evans and Associates on the SH 79 study project. We appreciate and commend the efforts the team has undertaken to conduct this corridor planning study in a manner consistent with the Federal Highway Administration (FHWA) PEL guidance which outlines a process similar to that required by the National Environmental Policy Act (NEPA). The benefits of this streamlining effort will undoubtedly be realized in terms of time and cost savings on future NEPA studies conducted within the corridor planning study limits.

The completed PEL Questionnaire submitted to FHWA in December 2013 provides a good summary of the work completed in the PEL study and the information that will be needed once projects enter into the NEPA process. The strengths of the corridor study include focused coordination with resource agencies, meaningful public involvement through the process, and a detailed look at access management in the corridor. Cumulative effects were not addressed in the corridor study and will be required in subsequent NEPA studies. As individual projects are initiated and funding becomes available, it will be necessary for FHWA to meet with Arapahoe County, the Town of Bennett, and CDOT on a project by project basis to determine the scope of the NEPA study including level of study required, purpose and need, logical termini, and the extent to which the corridor study can be used to supplement or replace certain milestone in the NEPA process.

If you have any questions, please feel free to contact Melinda Urban at 720-963-3015.

Sincerely,

John M. Cater, P.E.  
Division Administrator

By: Melinda Urban, P.E.  
Operations Engineer

Cc: Chuck Attardo, CDOT Region 1  
Carrie DeJacomio, CDOT Region 1  
Dole Grebenik, CDOT Region 1  
Trish Stiles, Town of Bennett  
Stacy Tschuor, David Evans and Associates



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

**Colorado Division**

January 9, 2014

12300 W. Dakota Ave., Ste. 180  
Lakewood, Colorado 80228  
720-963-3000

Page 492

Trish Stiles  
Town of Bennett  
Town Administrator  
355 Fourth Street  
Bennett, CO 80102

**Subject: SH 79 Planning and Environmental Linkage (PEL) Process**

Dear Ms. Stiles:

This letter is to acknowledge the completion of the Planning and Environmental Linkage study initiative undertaken by Arapahoe County, the Town of Bennett, the Colorado Department of Transportation (CDOT), and David Evans and Associates on the SH 79 study project. We appreciate and commend the efforts the team has undertaken to conduct this corridor planning study in a manner consistent with the Federal Highway Administration (FHWA) PEL guidance which outlines a process similar to that required by the National Environmental Policy Act (NEPA). The benefits of this streamlining effort will undoubtedly be realized in terms of time and cost savings on future NEPA studies conducted within the corridor planning study limits.

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If you have any questions, please feel free to contact Melinda Urban at 720-963-3015.

Sincerely,

John M. Cater, P.E.  
Division Administrator

By: Melinda Urban, P.E.  
Operations Engineer

Cc: Chuck Attardo, CDOT Region 1  
Carrie DeJacomio, CDOT Region 1  
Dole Grebenik, CDOT Region 1  
Bryan Weimer, Arapahoe County  
Stacy Tschuor, David Evans and Associates



**COLORADO**  
Department of Transportation  
Region 1

Regional Transportation Director  
2000 S Holly Street  
Denver, CO 80222

ECDD MAY 05 2014

April 30, 2014

Trish Stiles  
Town of Bennett  
Town Administrator  
355 Fourth Street  
Bennett, CO 80102

**Subject: SH 79 and Kiowa-Bennett Corridor Planning and Environmental Linkage (PEL) Study  
Support for Study Recommendations**

Dear Ms. Stiles:

CDOT is proud to have been a participant in the SH 79 and Kiowa-Bennett Corridor PEL Study as a member of the Technical Advisory Committee. We commend the efforts of everyone involved to conduct this planning study in a manner consistent with the FHWA PEL guidance which outlines a similar process to that required by NEPA. We applaud the efforts and vision of the study team members and their respective agencies to help assess the full range of alternative alignments for SH 79 as well as improving the connectivity for the Kiowa-Bennett corridor with I-70. It is our belief that this streamlining effort will result in time and cost savings on future NEPA studies conducted within the study limits.

The PEL Questionnaire (December 2013) provides a good summary of the work completed in the PEL study and the information will be needed once individual projects are identified and enter into the NEPA process. As funding becomes available for individual projects, it will be necessary for CDOT to meet with the Town of Bennett, the impacted counties and FHWA to initiate and proceed through the NEPA process. We look forward to participating in that effort and continuing to work with all the parties to realize the transportation goals in this corridor.

If you have any questions regarding this letter, please feel free to contact Carrie DeJacommo-Wiedner at (303) 365-7211 or [carrie.dejacommo@state.co.us](mailto:carrie.dejacommo@state.co.us). Thank you.

Sincerely,

Anthony R. DeVito, P.E.  
CDOT Region 1 Transportation Director

Cc: Melinda Urban, FHWA  
Carrie DeJacommo-Wiedner, CDOT Region 1 Program Engineer  
Bryan Weimer, Arapahoe County  
Jeanne Shreve, Adams County  
Stacy Tschuur, Leah Langerman, David Evans and Associates, Inc.





ARAPAHOE COUNTY  
COLORADO'S FIRST

Nancy A. Doty | District 1   Nancy N. Sharpe | District 2   Rod Bockenfeld | District 3   Nancy Jackson | District 4   Bill L. Holen | District 5

Carrie DeJacommo-Wiedner, Program Engineer  
Colorado Department of Transportation, Region 1  
2000 South Holly Street  
Denver, Colorado 80222

**SUBJECT:   C12-022;   STATE HIGHWAY 79 & KIOWA\_BENNETT ROAD PLANNING  
AND ENVIRONMENTAL LINKAGE (PEL) STUDY SUPPORT  
FOR STUDY RECOMMENDATIONS**

Dear Ms. DeJacommo-Wiedner:

Arapahoe County is proud to have been a participant in the State Highway 79 and Kiowa-Bennett Road PEL Study. Our involvement in the study on the Technical Team and through elected official briefings provided us the opportunity to discuss the significance of these two roadways and their interface with I-70 and each other with fellow stakeholders. We applaud the efforts and vision of the study team members and their respective agencies to help define these critical improvements for the future.

This planning study included Arapahoe County staff at key intervals, where they provided comments and guidance that improved the study. Study efforts included extensive and meaningful public and stakeholder involvement, which helped shape the study recommendations. Recently, recommendations for both early action and ultimate improvements, including separate phased project options, were documented in the *Final Planning and Environmental Linkage Report*. Following review and involvement by our technical staff, we are confident that recommendations have been made that best meet the project Purpose and Need of 1) Improving Regional Connectivity, 2) Reducing conflict and delay at the SH79 at-grade crossing of the Union Pacific Railroad, and 3) Addressing safety concerns along the major corridors within the study area. Our intention from both a planning and engineering perspective is to strive to support the recommendations of the study through the NEPA process and into detailed project implementation. We will continue to work with the various jurisdictional stakeholders of CDOT, Town of Bennett, and Adams County to help

facilitate the recommended improvements. In particular, Arapahoe County's focus will be on the I-70 and Kiowa-Bennett Road Interchange improvements. We encourage all of the agencies involved in the study to continue to partner and work toward collaborative partnerships that will ultimately provide benefits for all parties

Sincerely,

BOARD OF COUNTY COMMISSIONERS



Nancy A. Doty  
Chair of the Board

cc: Board of County Commissioners  
David M. Schmit, Director – Public Works  
Bryan D. Weimer, Division Manager – Transportation  
Brian R. Love, Program Manager – CIP  
Stacy Tschuor, David Evans and Associates, Inc.  
File (C12-022)  
Reader



Sue F. Horn, Mayor

January 13, 2014

Mr. Dole Grebenik, PE  
Resident Engineer, Region 1  
Colorado Department of Transportation  
4670 Holly Street  
Denver, Colorado 80216

**RE: SH 79 and Kiowa-Bennett Corridor Planning and Environmental Linkage (PEL) Study Support for Study Recommendations**

Dear Mr. Grebenik:

The Town of Bennett is proud to have been a participant in the SH 79 and Kiowa-Bennett Corridor PEL Study. Our involvement in the study on the Technical Advisory Committee provided the Town the opportunity to discuss the significance of the realignment of SH 79 with fellow stakeholders. We applaud the efforts and vision of the study team members and their respective agencies to help assess the full range of alternative alignments for SH 79 as well as improving the connectivity for the Kiowa-Bennett corridor with I-70.

This planning study included the Town of Bennett staff throughout the entire process and provided briefings of the elected officials at key points in the process. Study efforts included extensive and meaningful public and stakeholder involvement, which helped shape the study recommendations. The screening of the full range of alternatives and the recommendations regarding the implementation of each element of the preferred alternative were fully documented in the Final Planning and Environmental Linkage Report. Following review and involvement by our technical staff, we are confident that the recommendations have been made that best meet the project's Purpose and Need of improving regional mobility and connectivity, reducing conflict and delay at the at-grade railroad crossing, and addressing safety concerns.

Our intention from both a planning and engineering perspective is to strive to support the recommendations of the study through the NEPA process and into detailed project implementation. We will continue to work with you to help facilitate the implementation of the preferred alternative. We encourage all of the agencies involved in the study to continue to partner and work toward collaborative partnerships that will ultimately provide benefits for all.

Sincerely,

A handwritten signature in black ink that reads "Sue F. Horn". The signature is written in a cursive, flowing style.

Sue F. Horn, Mayor



**RESOLUTION NO. 952-23**

**A RESOLUTION ADOPTING AN UPDATED THREE-MILE PLAN FOR THE TOWN OF BENNETT, COLORADO**

**WHEREAS**, the Municipal Annexation Act of 1965, C.R.S. § 31-12-101, *et seq.*, (the “Act”) generally limits the Town to extending its municipal boundaries by no more than three miles in any one year; and

**WHEREAS**, the Act also requires that, prior to the completion of any annexation within such three-mile area, a plan be in place for such area that generally describes the proposed location, character, and extent of streets, subways, bridges, waterways, waterfronts, parkways, playgrounds, squares, parks, aviation fields, other public ways, grounds, open spaces, public utilities, and terminals for water, light, sanitation, transportation, and power to be provided by the Town and the proposed land uses for the area; and

**WHEREAS**, the Town has enacted, adopted and approved various land use, planning and transportation documents (the “Plans”), as set forth in Exhibit A, which include areas three or more miles beyond the Town’s municipal boundaries, and which will serve as the Town’s plan for the area outside its boundaries for purposes satisfying the requirements of C.R.S. § 31-12-105(1)(e); and

**WHEREAS**, the Board of Trustees has determined that the Plans, when considered together as a whole, adequately comply with the Act; and

**WHEREAS**, by this resolution the Board of Trustees desires to specifically designate the Plans as the Town’s plan in place for the area three miles beyond the Town’s municipal boundaries (the “Three-Mile Plan”), as contemplated by C.R.S. § 31-12-105(1)(e).

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE TOWN OF BENNETT, COLORADO:**

**Section 1.** The Plans set forth in Exhibit A, as the same may from time to time be amended, shall collectively be considered the Town of Bennett’s Three-Mile Plan for purposes of C.R.S. § 31-12-105(1)(e).

**Section 2.** The Three-Mile Plan shall be reviewed and revised as may be necessary or advisable, and no annexation shall be completed by the Town unless the property to be annexed is included within the area generally addressed by the Plans. Additional plans may be added to the Three-Mile Plan from time to time, as they may be developed and adopted by the Town.

**INTRODUCED, READ AND ADOPTED THIS 13<sup>th</sup> DAY OF FEBRUARY 2023.**

TOWN OF BENNETT, COLORADO

\_\_\_\_\_  
Royce D. Pindell, Mayor

ATTEST:

\_\_\_\_\_  
Christina Hart, Town Clerk

**EXHIBIT A**  
**Town of Bennett Land Use, Planning and Transportation Documents**

1. Town of Bennett 2021 Comprehensive Plan
2. Town of Bennett 2023 Master Transportation Plan
3. Town of Bennett 2019 Capital Asset Inventory Master Plan
4. Town of Bennett 2019 Parks, Trails and Open Space Master Plan
5. Town of Bennett 2019 Arts and Cultural Master Plan
6. Town of Bennett 2011 Regional Trail Plan
7. Town of Bennett 2010 Downtown Planning Study
8. Town of Bennett 2013 Planning and Environmental Linkages Report

## **Suggested Motion**

I move to approve Resolution No. 952-23 - A resolution adopting an updated Three-Mile Plan for the Town of Bennett, Colorado.