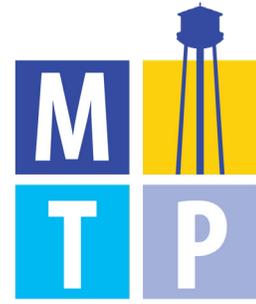


town of **Bennett**

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 multimodal 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.



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:

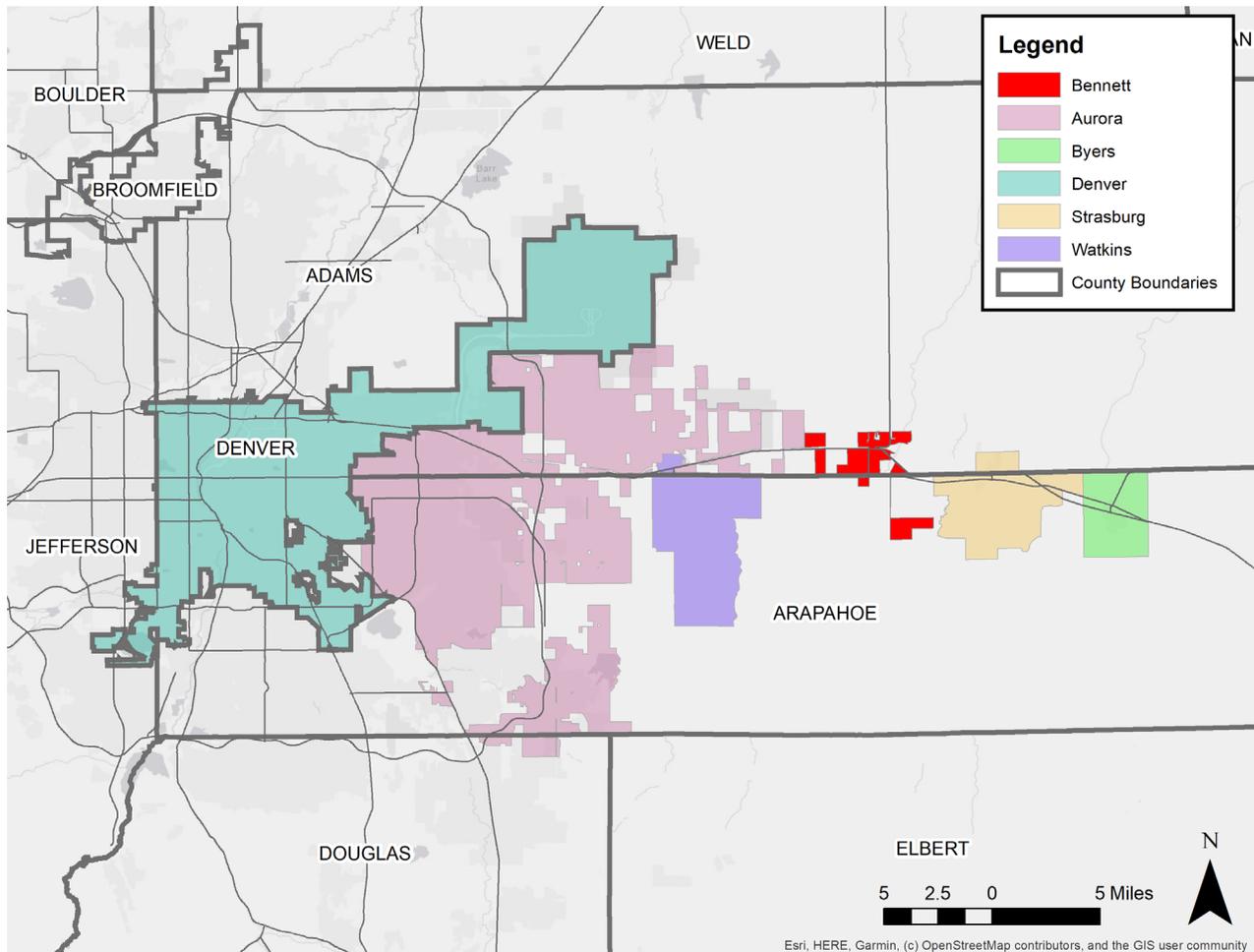


Figure 1 Regional Context and Study Area

- 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.

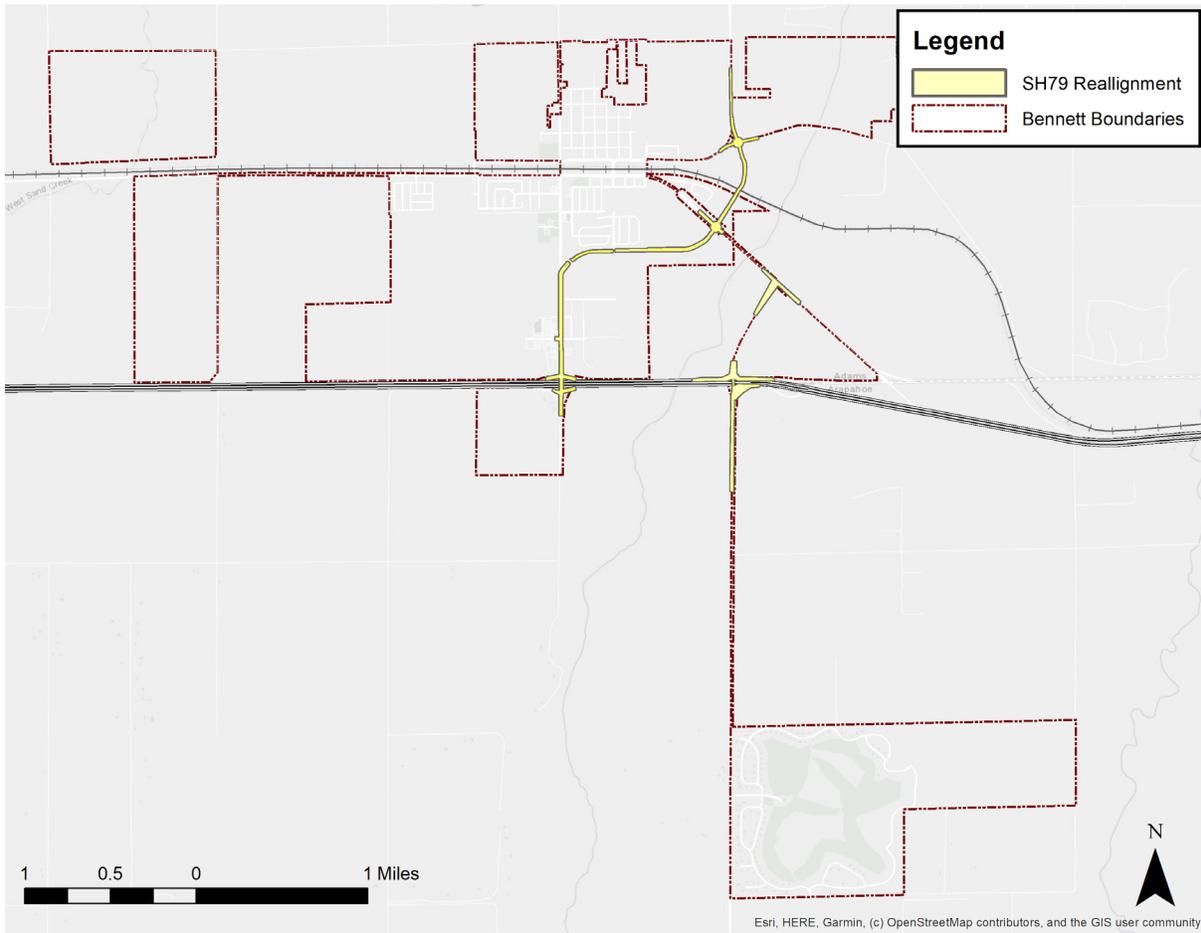


Figure 2 SH79 and Kiowa-Bennett Rd Preferred Alignment

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,

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.

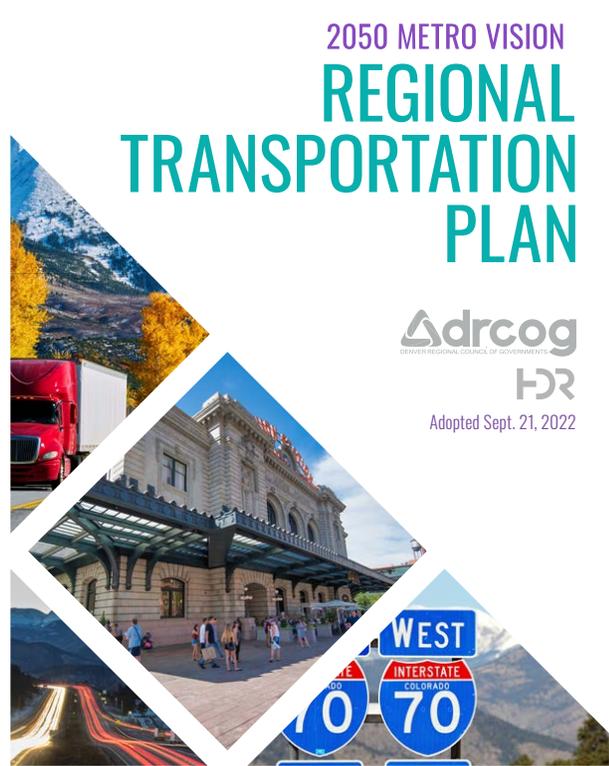
CONNECTION TO NOTABLE REGIONAL PLANS

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).

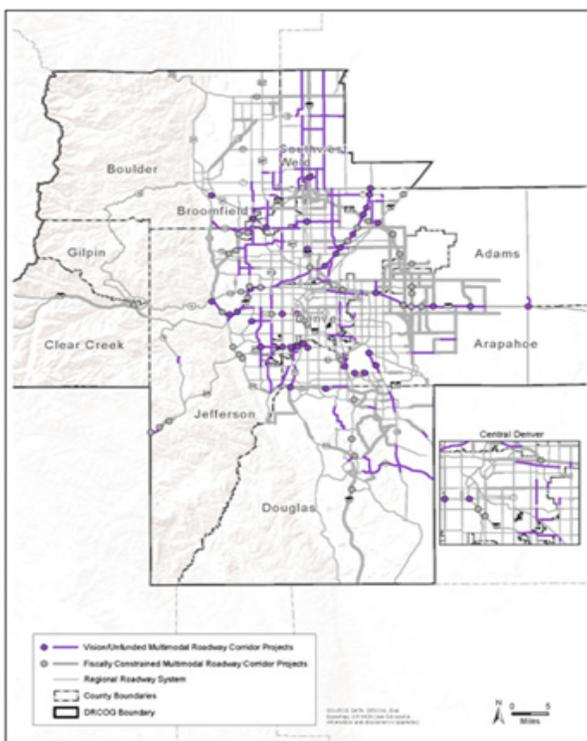


Figure 3 DRCOG Fiscally Constrained Transportation Project Map (2022)

DEMOGRAPHICS, DEVELOPMENT OPPORTUNITIES AND COMMUTING PATTERNS

Demographic information for the Town of Bennet 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

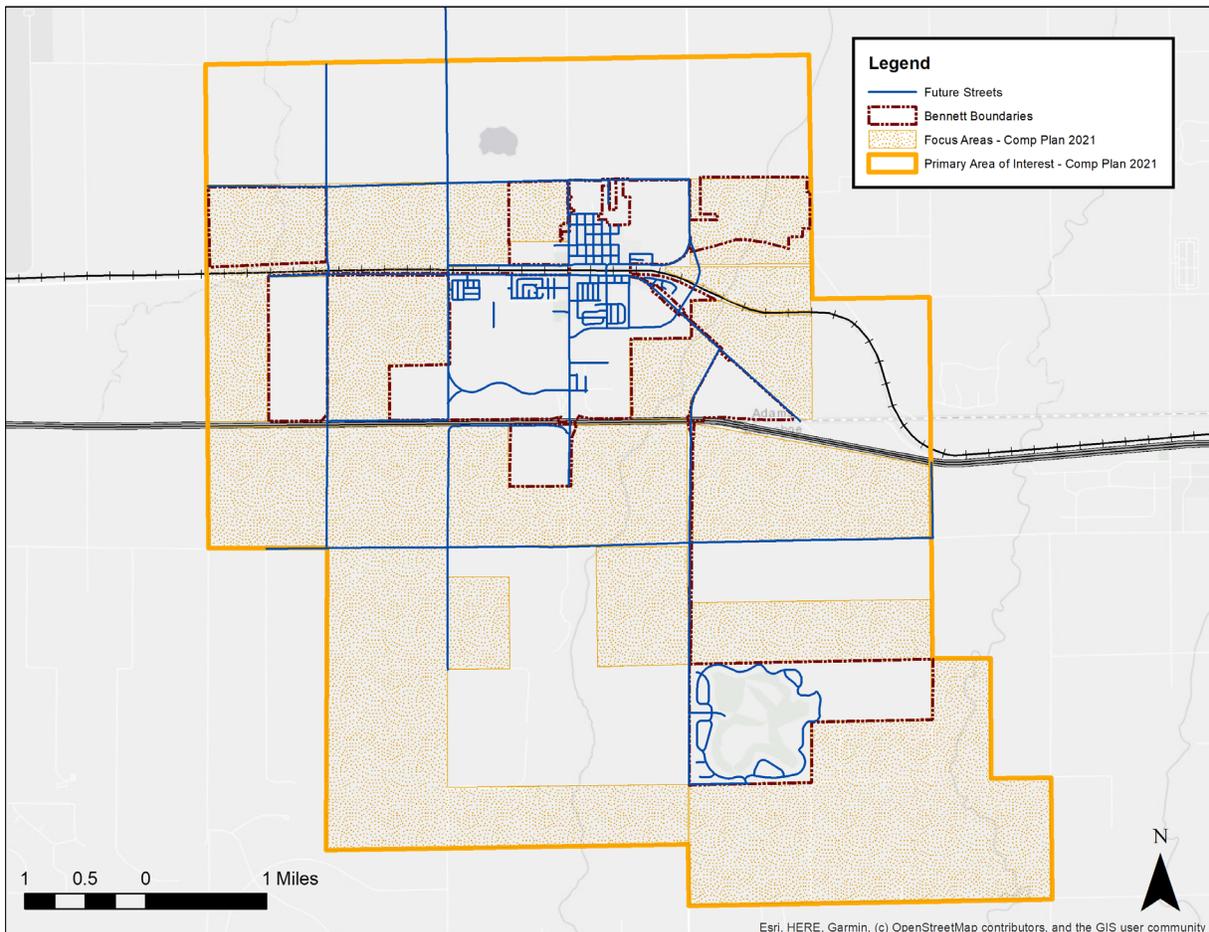


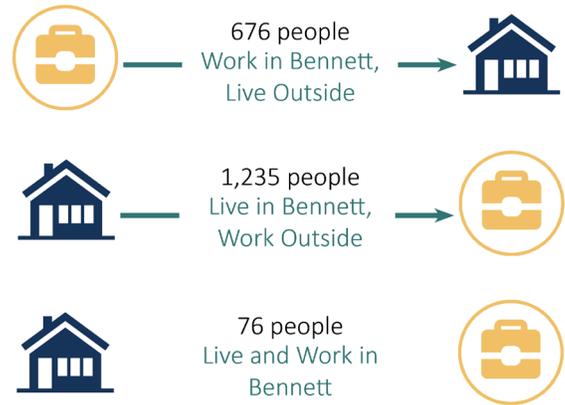
Figure 4 Future Focus Area

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.

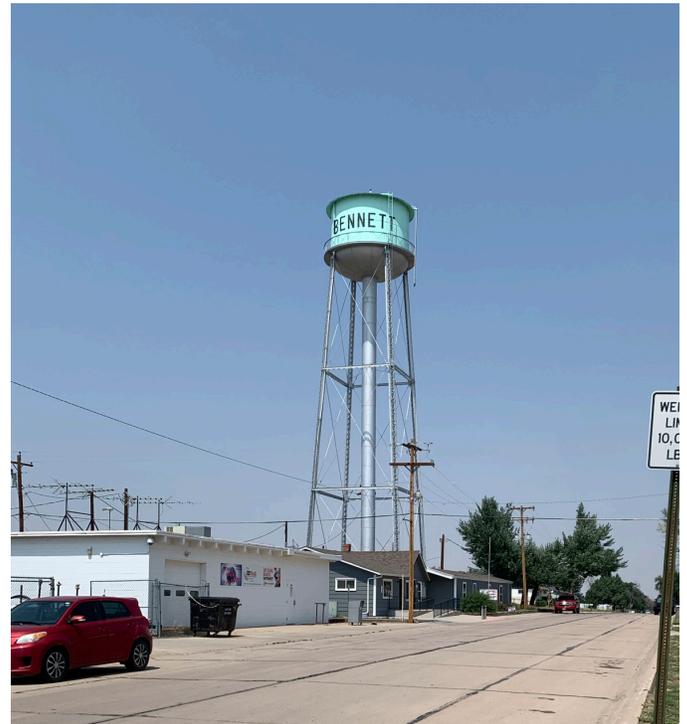
Means of Transportation to Work

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.

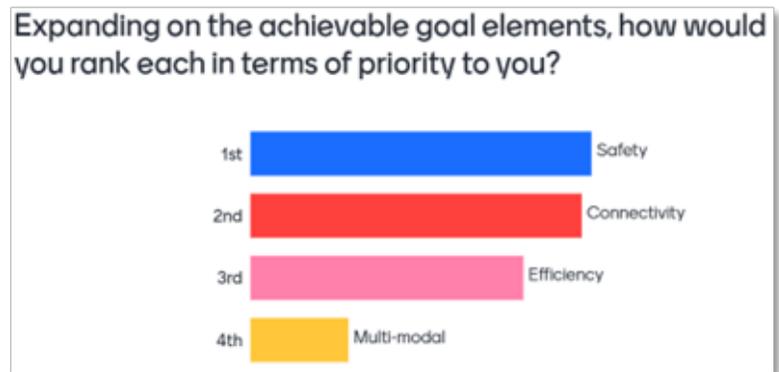


Figure 6 Achievable goal elements ranking



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

User Safety Poll

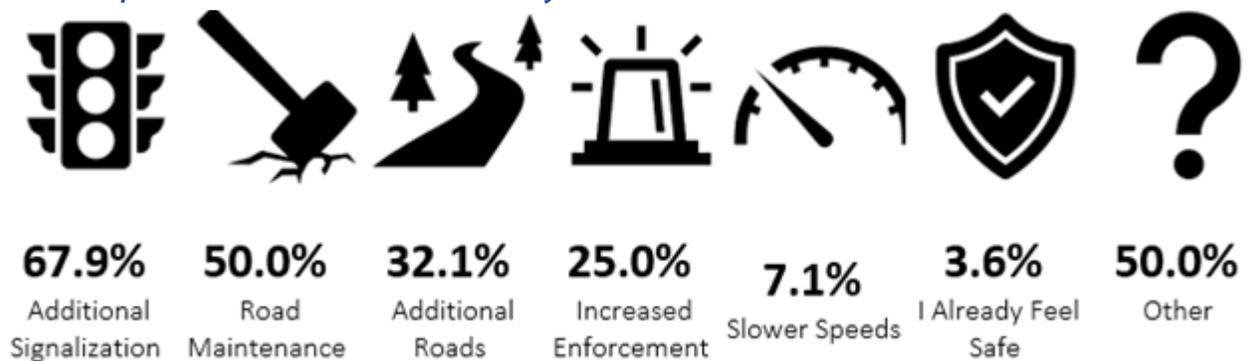
Responses to the questionnaire indicate concerns with the overall safety of the transportation network for all types of users. Indicated below, respondents ranked each mode as unsafe, with bicycling being the least safe mode of transportation in Bennett.



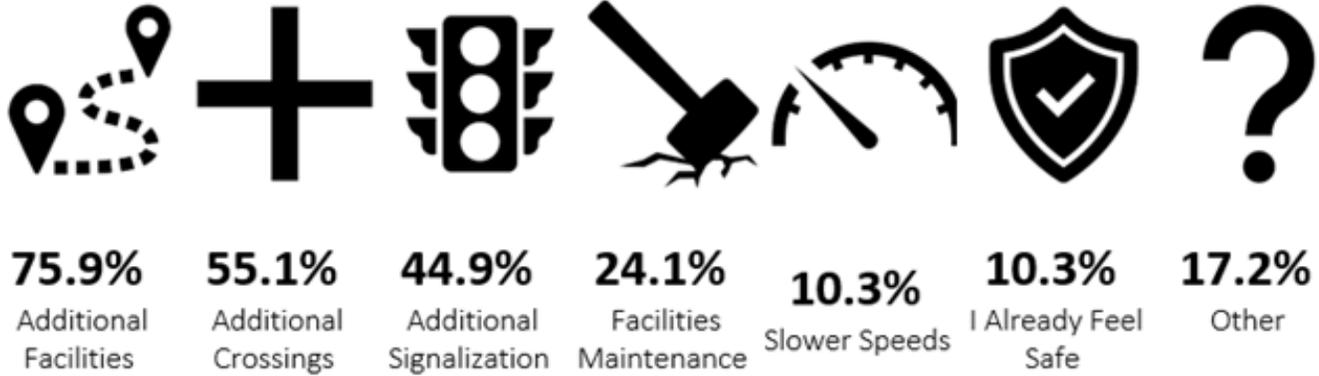
What factors hinder the transportation network's efficiency?



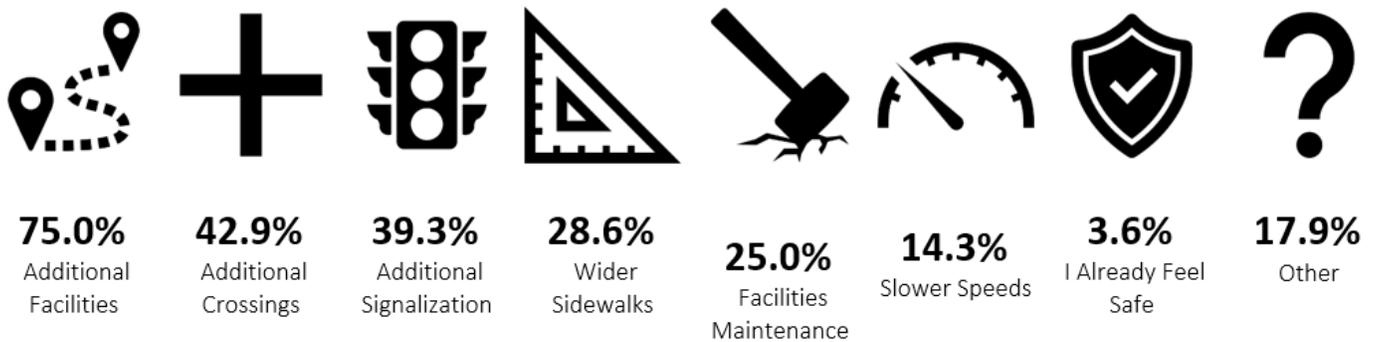
What improvements would make you feel safer as a driver?



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.

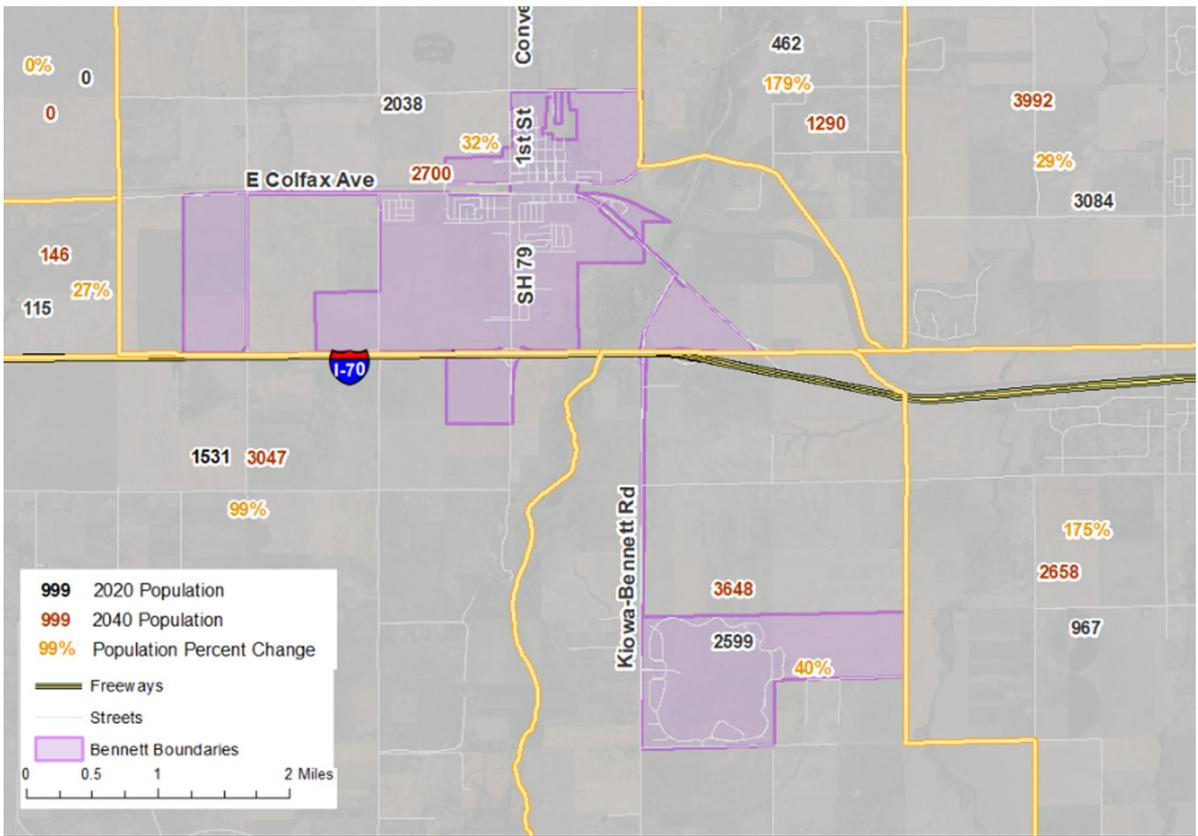


Figure 8 DRCOG 2020, 2040 Population Estimates by TAZ

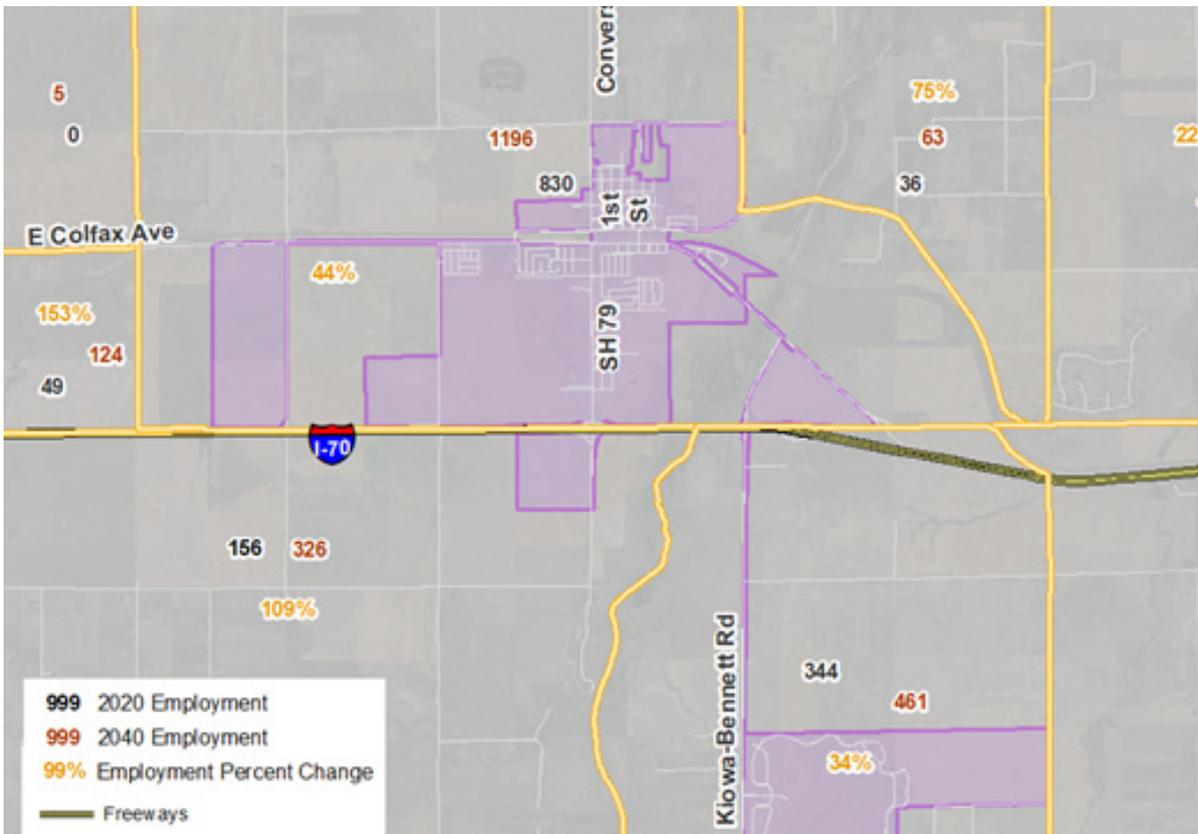


Figure 9 DRCOG 2020, 2040 Employment Estimates by TAZ

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

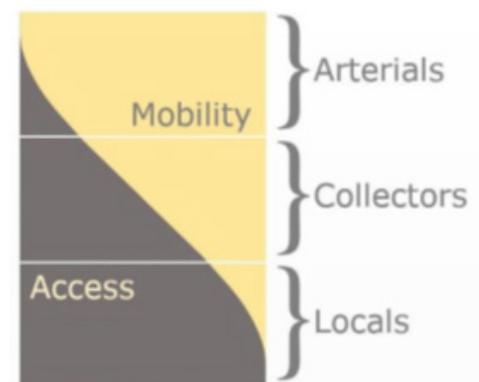


Table 2 Currently adopted basic roadway design criteria (December 2018)

Source: FHWA, COMPASS (Idaho)

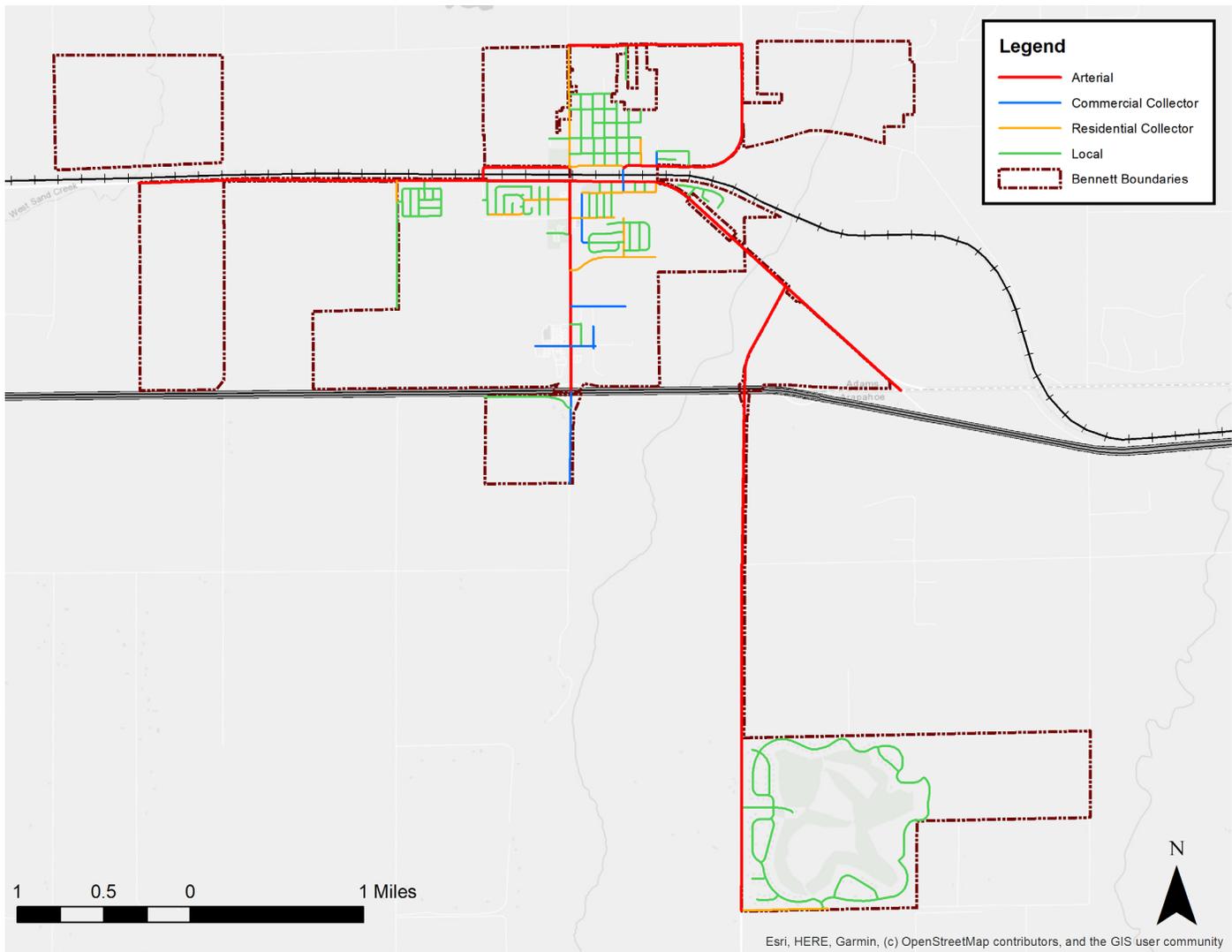


Figure 10 Current Functional Classification

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
Current Classification				
Arterial	4	7,000 to 12,000	45 MPH	110 feet
Collector	2	1,500 to 7,000	35 MPH	65 feet
Entry	2	1,500 to 7,000	25 MPH	65 feet
Local	2	less than 1,500	25 MPH	50 feet
Proposed Classification				
Principal Arterial	4	2,000 to 8,500+	45 MPH	110 feet
Minor Arterial	4	1,500 to 6,000	45 MPH	95 feet
Major Collector	2	300 to 2,600	35 MPH	84 feet
Minor Collector	2	150 to 1,110	35 MPH	67 feet
Local	2	15-400	25 MPH	52 feet

Table 3 Recommended Classification Detail - Current and Proposed



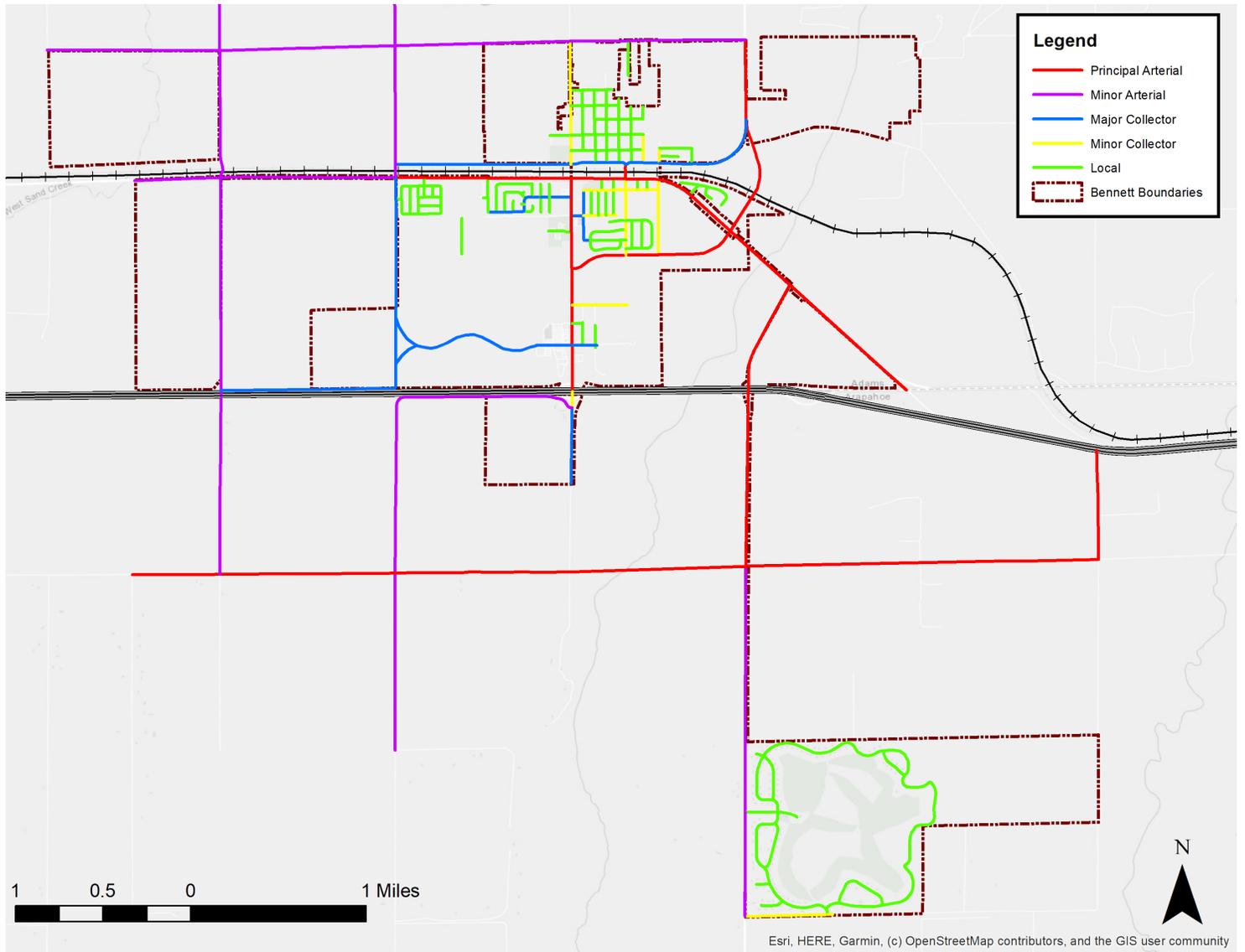


Figure 11 Recommended Functional Classification and Future Roadway Network Build Out

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.



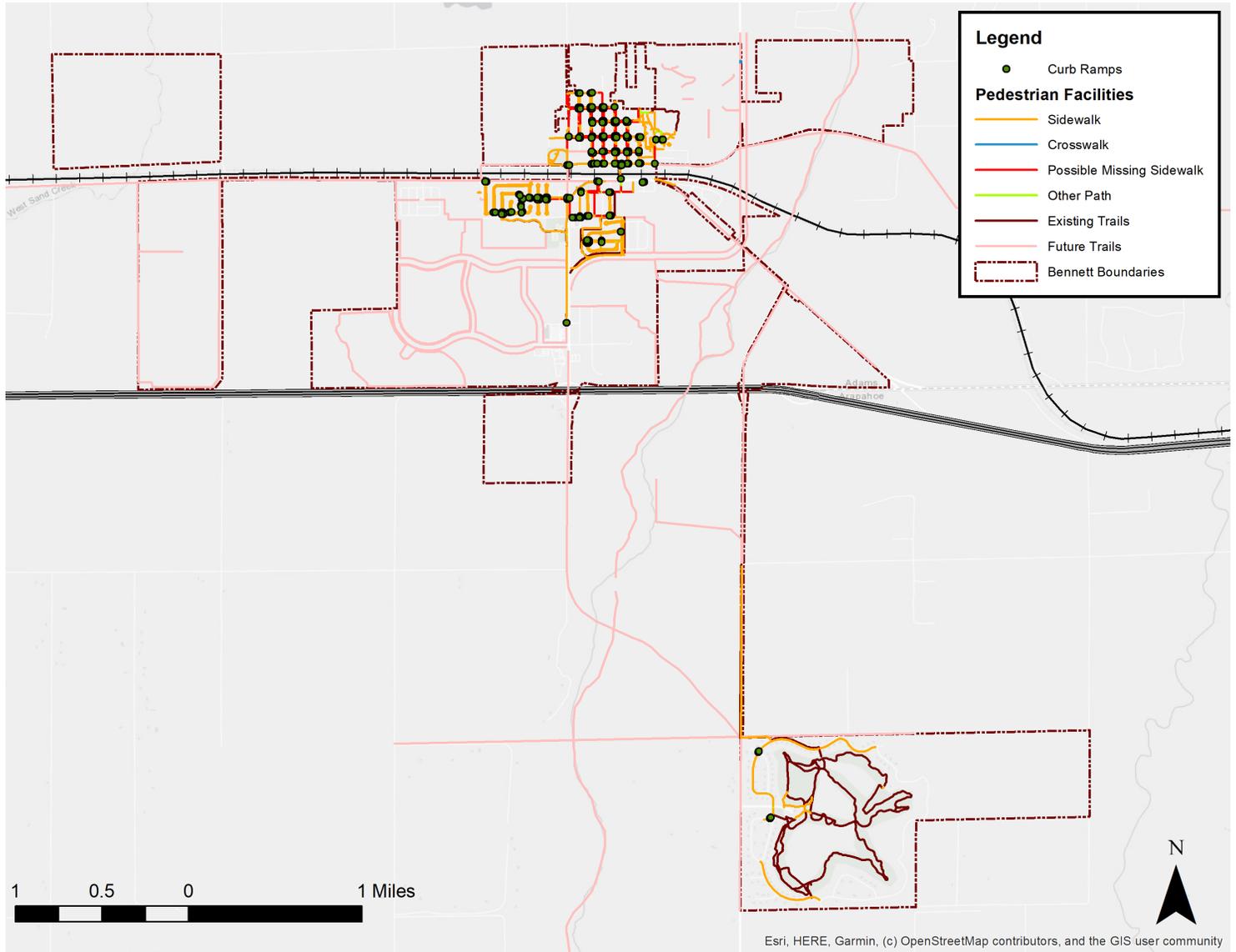


Figure 11 Current and Planned Pedestrian and Bicycle Facilities





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.

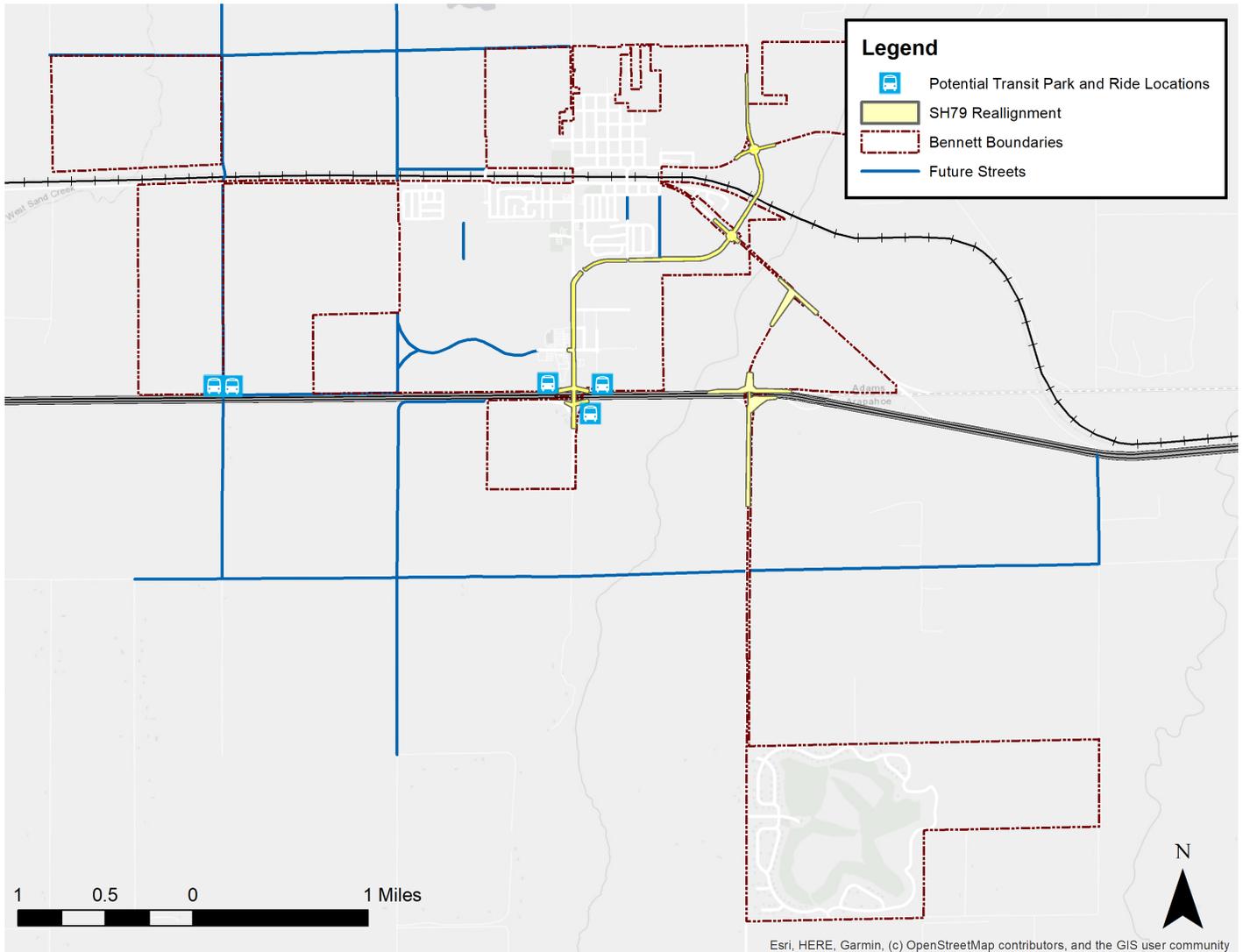


Figure 12 Preliminary/Potential Transit Park and Ride Locations

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.



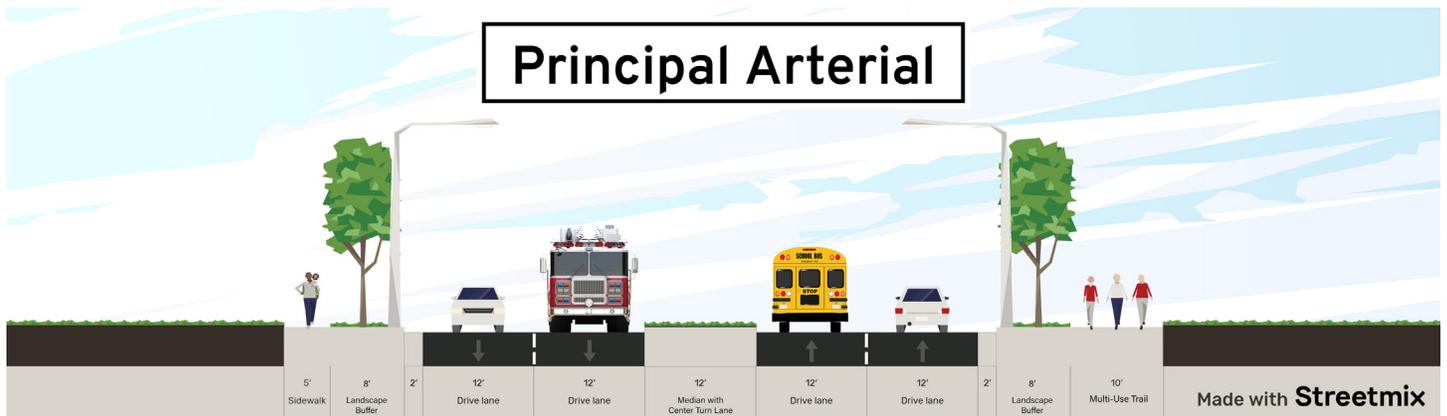


Figure 13 Principal Arterial with Raised Median

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:

Principal Arterial with Median	Per Linear Foot	Per Linear Mile
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
Miscellaneous Items	Per Linear Foot	Per Linear Mile
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.

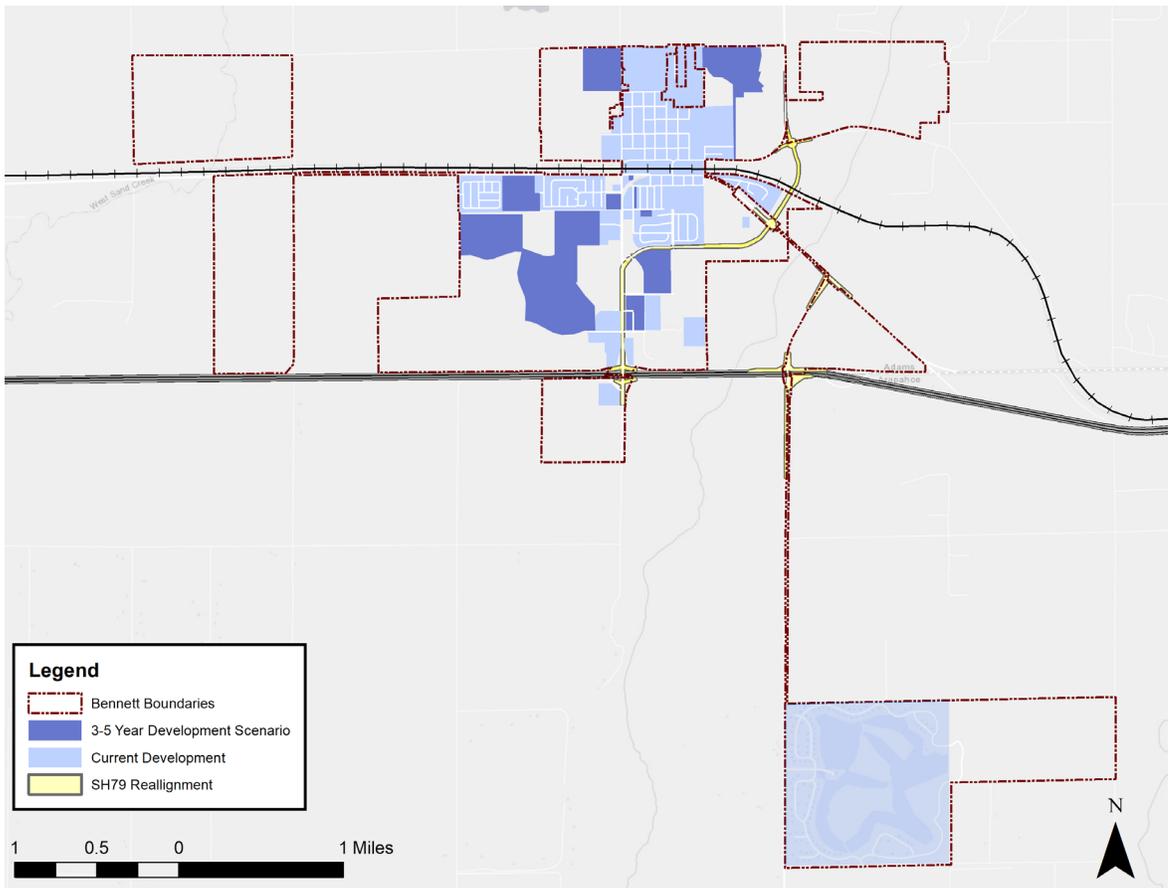


Figure 14 Development Scenario (3-5 Years)

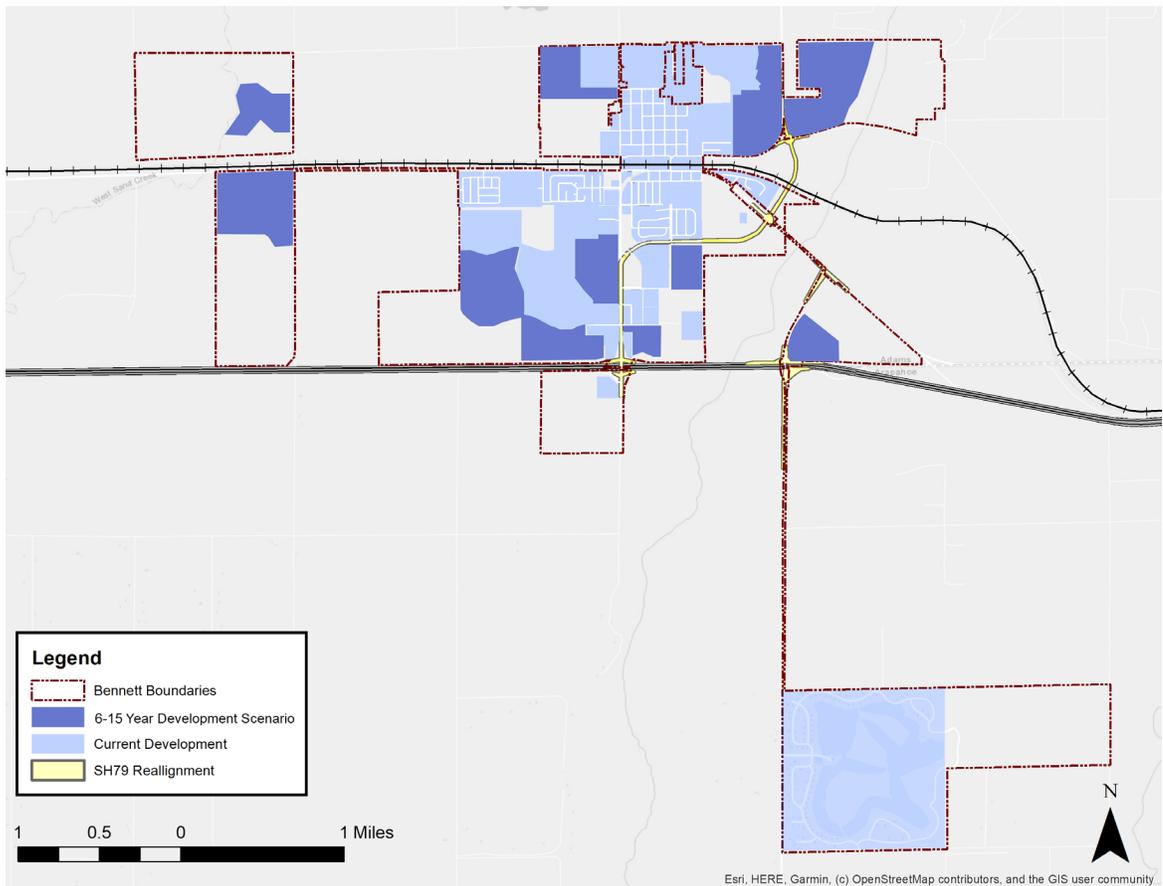


Figure 15 Development Scenario (6-15 Years)

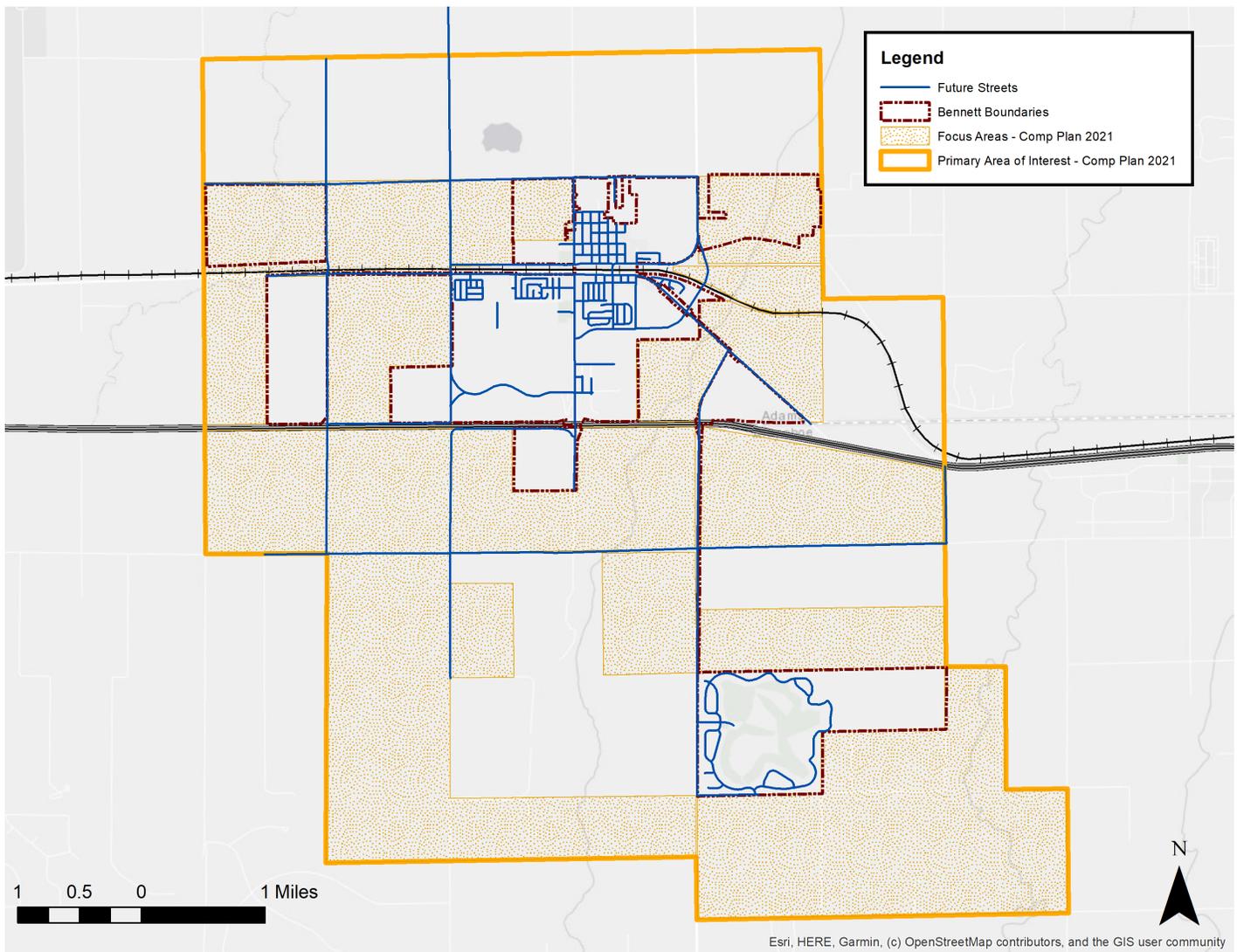


Figure 16 Future Focus Area

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>