



Recommendations and Final Report

April 2013



City of Colorado Springs
Mountain Metropolitan Transit
Comprehensive Operational Analysis



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Introduction

In the past five years, Mountain Metropolitan Transit (MMT) has experienced significant changes in service levels, ridership, service performance, and funding availability. Given the recent dynamic environment for transit in Colorado Springs, a thorough analysis of both existing service performance and the future potential opportunities for service was warranted. A Comprehensive Operational Analysis (COA) was conducted to review broader network level and route-specific structure, performance, efficiency, and effectiveness. The COA builds on lessons learned from the recent significant changes for transit in Colorado Springs.

The results of the COA provided MMT with a comprehensive understanding of market conditions, existing service performance, and developed a phased set of recommendations that sought to build upon the network's strengths, improve system productivity, financial sustainability, and the overall passenger experience. The recommendations were developed in conjunction with MMT staff and are based on analytical findings from a review of existing and future market conditions in combination with analysis of existing transit service. The plan is intended for use by the MMT staff, in consultation with elected leaders, to help guide service planning decision-making over the next five years. It is assumed the next full system COA analysis will be conducted in 2018. Improvements in the system are achieved by accomplishing the following objectives:

- Matching service levels with market demand for transit
- Re-investing resources and increasing frequency on productive routes
- Creating a network that operates all week
- Providing passengers with additional travel and transfer opportunities

Plan Elements

The COA included the following key plan elements:

- **Market Assessment:** The market assessment provides an understanding the market demand for transit in the Colorado Springs area. Better understanding of the context in which MMT provides transit service provides insight into existing transit performance, provides the opportunity to provide market-matched services, and identifies opportunities for increasing system ridership.
- **Service Assessment:** Provides a data driven understanding of the transit system's fixed route performance and structure necessary to inform subsequent policy and planning discussions. Findings will contribute to the development of service alternatives and recommendations by identifying through analysis of existing



service including ridership patterns, productivity, and financial effectiveness.

- **Plan Framework and Guiding Principles:** The findings from the existing conditions analyses informed the development of the Guiding Principles which provide a unified vision for transit in Colorado Springs. The guiding principles became the foundation for designing the final recommendations to ensure consistency of individual recommendation with broader policy objectives.
- **Phased Recommendations:** The recommendations element of the MMT COA generated a refocused network and numerous route-level changes organized into three distinct phases. The phases were assembled based on projected funding available to fund operating costs. The organization of recommendations into phases allows for clarity in future planning and a manageable implementation process.
- **Implementation Plan:** Provides financial and capital impacts by plan phase in addition to guidelines for implementing each phase of the plan.
- **Additional Analysis:** The COA also included two separate technical analyses. The first, a review of MMT's scheduling processes and procedures to identify opportunities for improvement. The second assessed the how well the existing downtown transit facility fits Mountain Metropolitan Transit's current operational needs and evaluates the terminal's role both within downtown and the transit network as a whole. Both additional analyses are included as separate technical memorandums.

Existing Conditions

The *Market Assessment* and *Service Evaluation* detailed the existing conditions in MMT's service area. The findings from these documents informed the guiding principles and the framework for the final recommendations. The market assessment utilized key demographic data to evaluate the market demand for transit and help identify where operating transit service should be most successful. The service assessment provided a data-driven analysis of the system's fixed route performance, highlighting opportunities where MMT service can continue to grow and improve. A collection of key findings from both documents follows, with full results of the analysis available in the separate individual documents.

Mountain Metropolitan Transit Service Area

Mountain Metropolitan Transit is a division of the City of Colorado Springs and provides public transportation for the Colorado Springs metropolitan area. The metropolitan area is located in south-central Colorado, just east of the Rocky Mountains, and about 50 miles south of Denver. It has a population of over 544,000 and includes the second most populous city in the state, the City of Colorado Springs. Covering nearly 200 square miles, the City of Colorado Springs is Colorado's largest city in area.

MMT provides Colorado Springs residents with fixed route, paratransit, and van pool services through contracts with McDonald Transit Associates (fixed route) and Veolia (ADA). MMT operates 18 fixed routes that run Monday through Friday from approximately 5:30 AM to 7:00 PM. Nine routes run on Saturday from approximately 6:30 AM to 7:00 PM while none run on Sundays. The Mountain Metro fleet consists of 48 vehicles that are used for fixed route services, 44 ADA vehicles for paratransit service, and vans for vanpool service. MMT provides service throughout the City of Colorado Springs at frequencies of every 30 or 60 minutes. Six routes (Routes 1, 3, 5, 7, 9, 25) have 30 minute service frequencies and 12 have 60 minute frequencies.

MMT has implemented several changes in its transit service structure since 2008. The majority of these changes focused on eliminating the most unproductive routes. Today, the system consists of 18 routes that all serve the City of Colorado Springs, extending west to Manitou Springs, north to the Chapel Hills Mall, east to Peterson Air Force Base, and south to the Widefield area. Of the 18 routes, 14 access the terminal in downtown Colorado Springs.

Mountain Metro Transportation 2012 Network

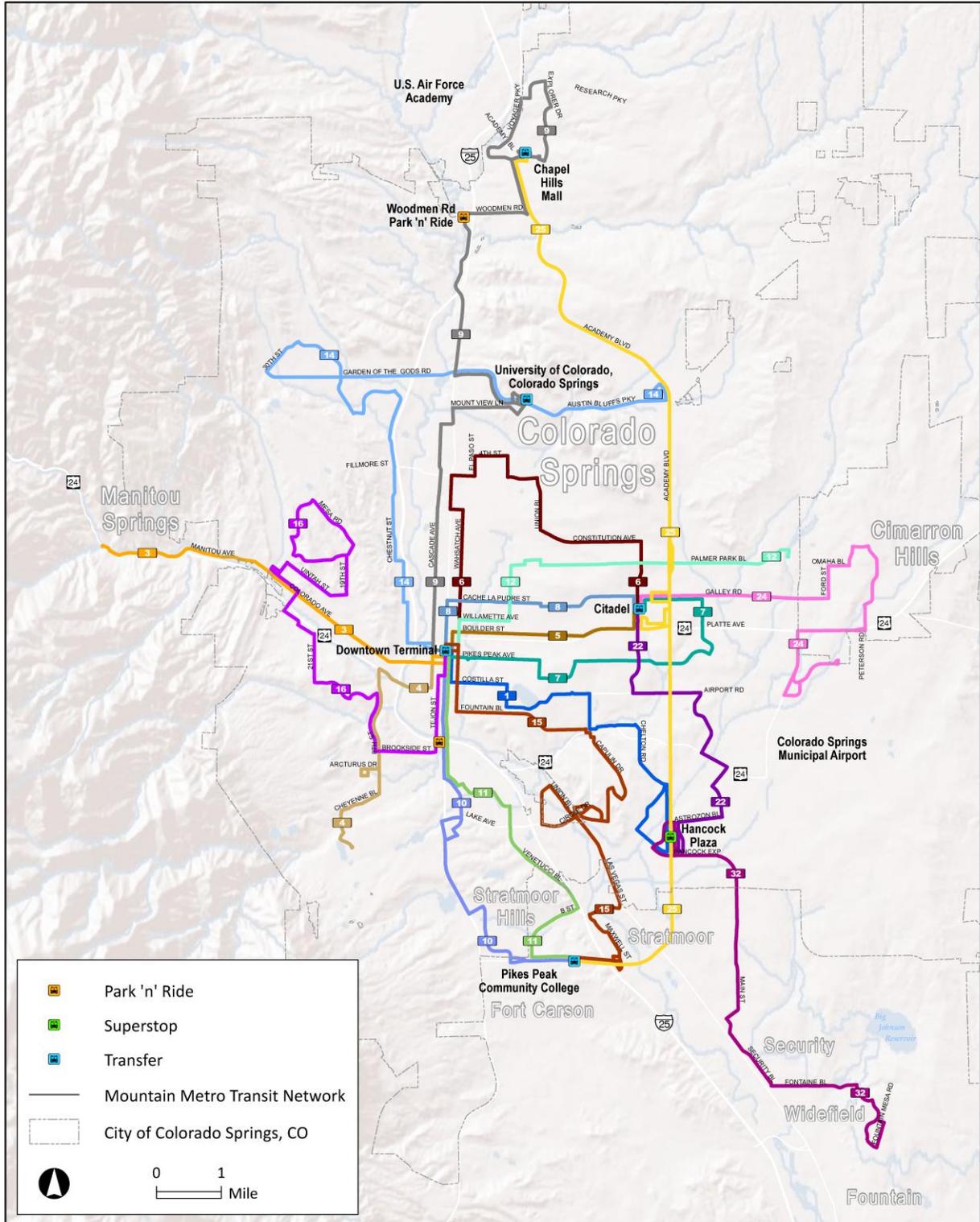


Figure 1: Mountain Metro Transportation 2012 Network

Market Assessment Key Findings

- **Increase System Use by Existing Riders:** A number of Mountain Metro routes serve key employment corridors, educational institutions and medical facilities. Building on the network in terms of service frequencies, hours of operation (service span) and days of operation will provide the existing base group of riders more alternatives and options to use the service for work and personal business trips.
- **Transit Market is Limited:** The demand for transit in MMT's service area is limited by lower population and employment densities. Future transit success will be dependent upon development patterns that are more supportive of transit use. Corridors with strong existing transit performance and transit-conducive land use represent the best opportunity for market growth. Transit improvements in these key corridors promote system visibility and enable the system to focus its resources while serving markets with more potential for transit.
- **Employment and Educational Opportunities:** These institutions are located on corridors served by MMT. The two largest post secondary educational institutions, Pikes Peak Community College (PPCC) and the University of Colorado Colorado Springs (UCCS), have been successful in attracting more students and have additional plans for growth. Although the campuses are currently auto oriented, both have potential for attracting additional transit ridership in the long term given transit-conducive development design.
- **Residents to the South and Southeast:** This area features a population that is not only already strongly supportive of transit use, but features a number of geographical and demographical qualities that would indicate greater receptiveness to transit use. The Hancock Plaza area was identified as a transit node in the Academy Boulevard study and this area has been targeted for strategies to encourage infill and commercial revitalization. Transit can benefit from these efforts.
- **Downtown Colorado Springs:** Downtown Colorado Springs currently includes and is planned to include transit-conducive employment and residential development patterns and densities supportive of ridership generation.

2010 Population & Employment Density

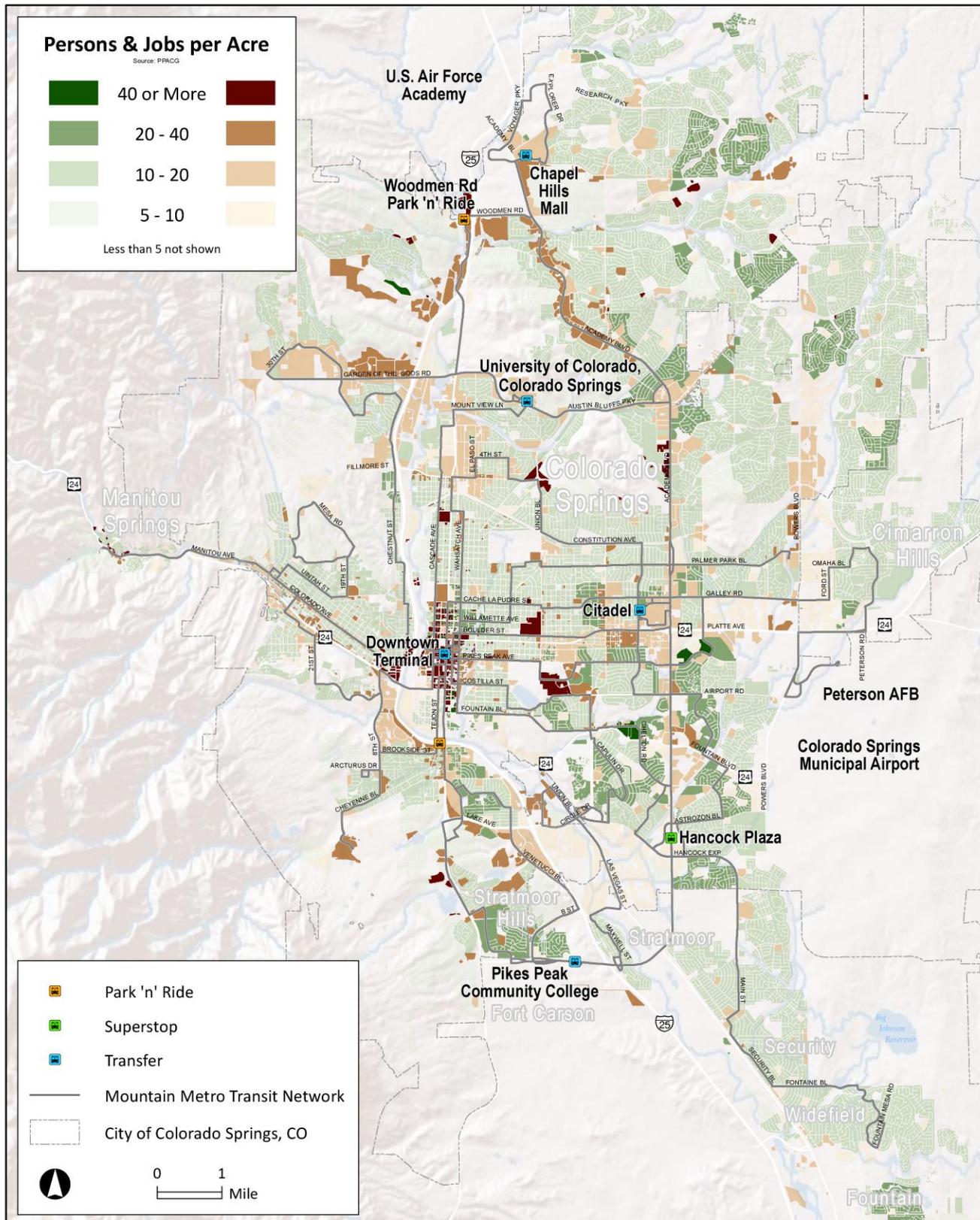


Figure 2: 2010 Population & Employment Density

MMT Travel Patterns

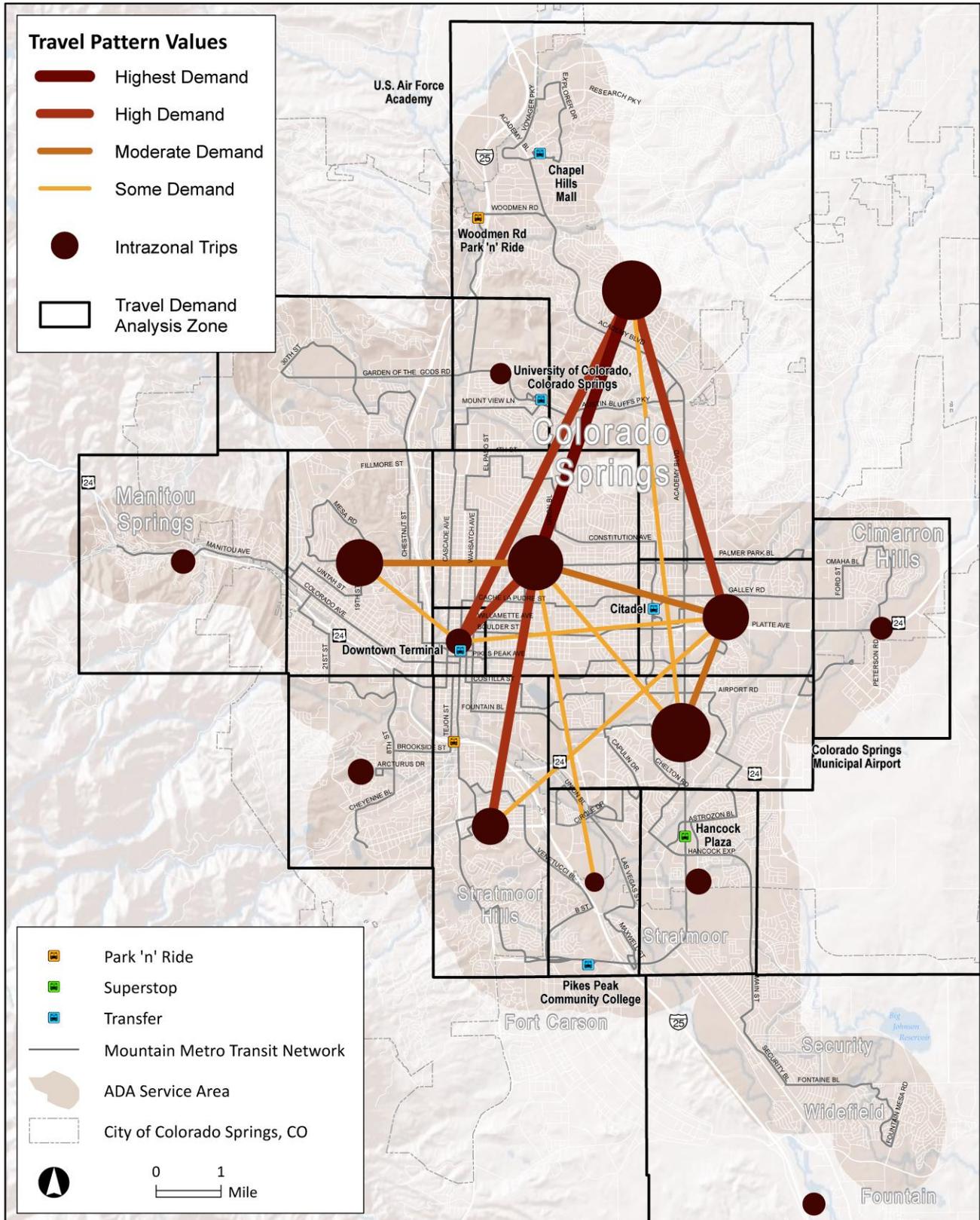


Figure 3: MMT Travel Patterns

Service Assessment Key Findings

- **Hub-and-Spoke Network:** MMT operates a hub-and-spoke network that connects the primary focal point, downtown Colorado Springs, with secondary points of interest such as the Citadel, UCCS, PPCC, the Chapel Hills Mall, and Hancock Plaza. The hub-and-spoke network is appropriate for the transit market in Colorado Springs given the existing pattern of development.
- **Duplicative Service:** MMT operates many parallel routes that run in close proximity to one another. They are close enough to each other that they can be viewed as duplicative, serving the same customer market. In many of the cases, the markets are being over-served because the existing demand does not support the aggregated levels of service from the parallel routes. The other case of duplicative service in the system occurs when MMT utilizes multiple routes to serve the exact same origins and destinations.
- **Frequency and Service Span:** The service evaluation identified several factors that influence ridership, a key aspect of system productivity. Of these factors, changes to frequency and hours of operation can yield some of the most cost effective increases in ridership. The current system supports this notion with higher frequency routes attracting more riders. Two-thirds of the system is composed of routes that are considered to be “lifeline” services, operating at frequencies of every 60 minutes. Increases in productivity can be achieved by adjusting frequencies to match an area’s demand for transit with the appropriate level of service. The existing hours of operation serve traditional commutes and travel patterns, but constrain ridership growth outside of that market. The lack of Sunday service limits access to people who work jobs that traditionally support transit use but require service outside of MMT’s current hours of operations.
- **Route Design:** A route’s performance is impacted by its design, frequency, and operating efficiency. The routes that perform the best connect passengers to key destinations and do so efficiently. The service assessment provides an opportunity to improve system performance and ridership by identifying the routes that warrant investment and the routes that warrant a re-evaluation of their role in the network. Building a network that connects passengers to the system’s core areas, where demand for transit will be highest will support improved productivity.
- **Consolidating and Re-investing Resources:** Between 2008 and 2012, the MMT service network has undergone a series of changes. While total revenue hours have decreased over time, the system’s productivity has continued to increase, which emphasizes the importance of operating efficiently-designed routes. Reallocating resources from consolidated routes to productive ones increases service levels on efficient routes, improves system performance, and enhances ongoing financial sustainability.

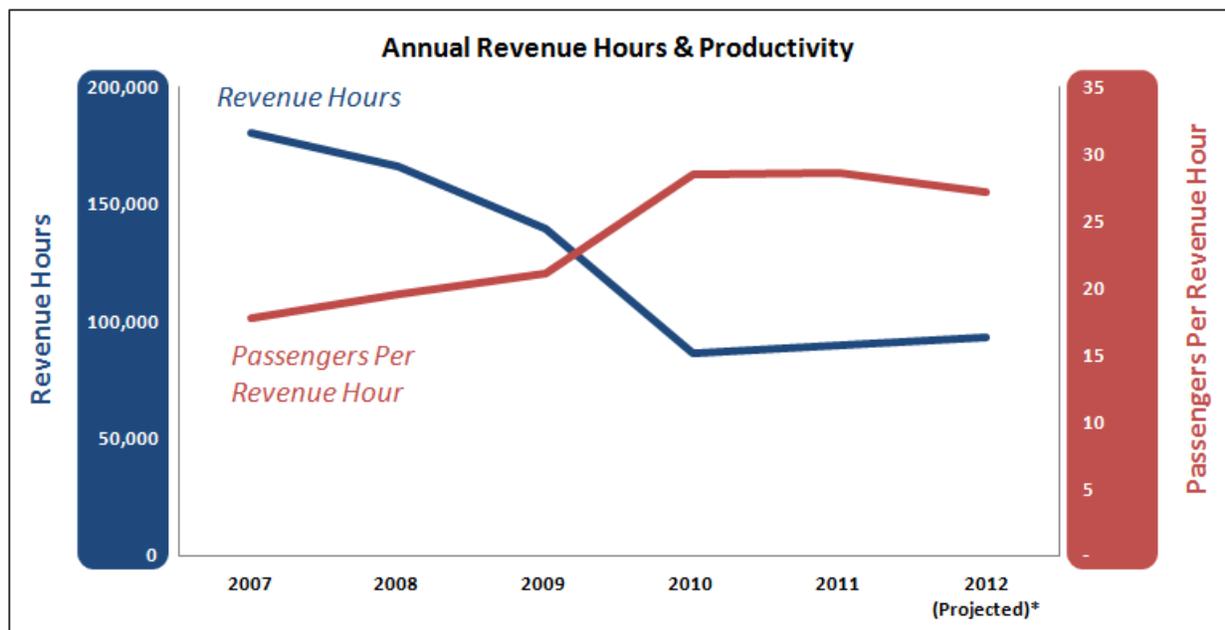


Figure 4: Annual Revenue Hours & Productivity

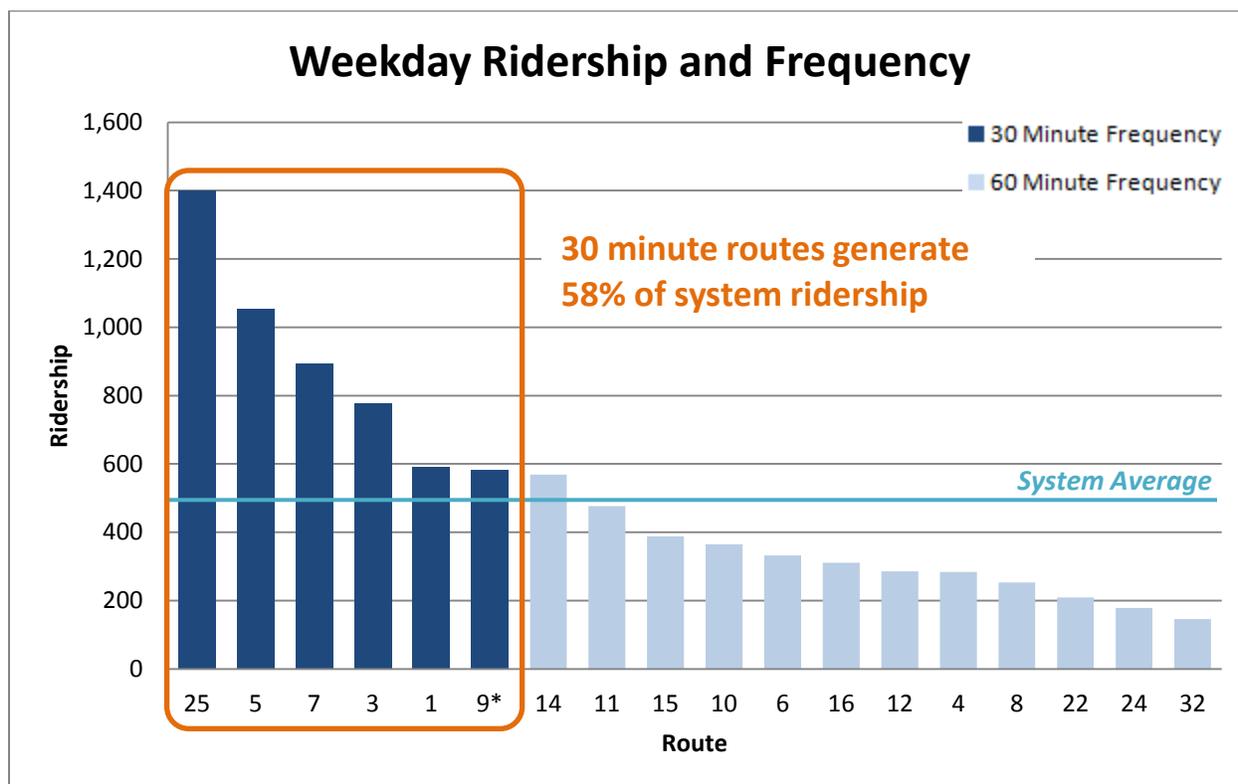


Figure 5: Weekday Ridership and Frequency

*Route 9 operates at a 60 minute frequency north of UCCS

MMT Weekday Boarding Activity

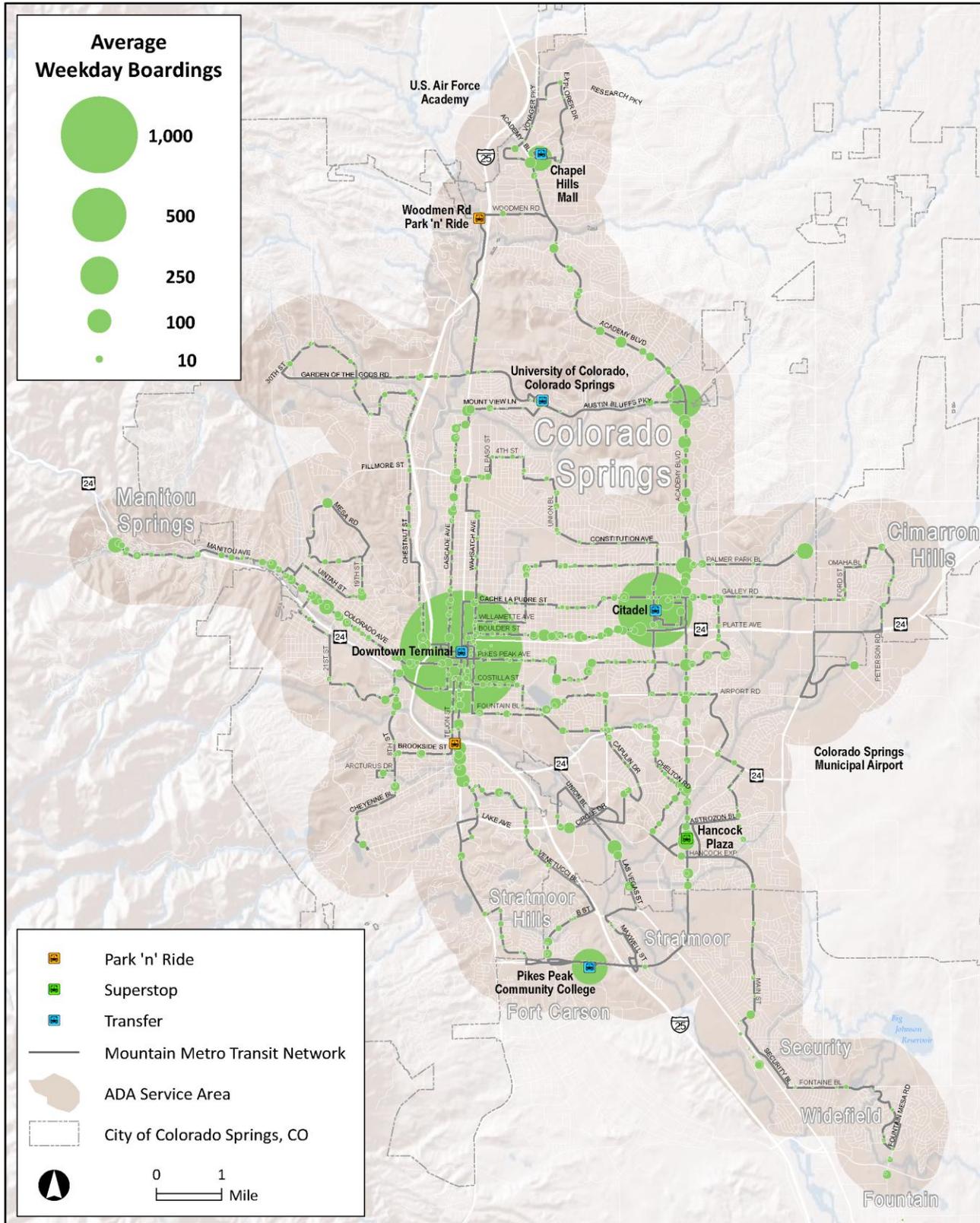


Figure 6: MMT Weekday Boarding Activity

(Data represented from June 2010 boarding data, prior to opening of the County Service Center on Garden of the Gods Road)

Existing Conditions Summary

Given the results of the existing conditions analysis the future direction for MMT may be organized into two distinct planning horizons, short-term and long-term. The opportunities, challenges, and possibilities are distinct in each timeframe. Recognition of the unique planning context of each timeframe will assist in developing achievable and sustainable service planning goals.

Near Term

MMT has done a commendable job of using its resources efficiently given the limited market for transit. Most routes in the system operate efficiently due to service design and delivery. While MMT has run an efficient system, existing market conditions such as dispersed density, dispersed travel patterns, and non-linear nature of land use present a challenging environment in which to generate high ridership. Limited ridership generation on otherwise efficient routes limits the effectiveness of the system as a result of low volumes of passengers carried. Some market conditions will not respond to any level of transit service. The existing near term conditions warrant a focus on reinforcing and refining current successes while scaling additional investment appropriately. Additional near-term opportunities include addressing the lack of an all-day network or high frequency transit service.

Long Term

The long term seeks to increase the role of transit in Colorado Spring's mobility plans. Achieving a goal of increased transit mobility will depend on a paradigm shift in development patterns, necessitating participation of both the city and county to develop mutually supportive land use patterns that emphasize sustainable mobility. If transit is to become a part of the mobility solution, then a commitment to sustainable development patterns is necessary.

Framework and Guiding Principles

The findings from the existing conditions analyses informed the development of the Guiding Principles which provide a unified vision for transit in Colorado Springs. The guiding principles became the foundation for designing the final recommendations to ensure consistency of individual recommendation with broader policy objectives.

Guiding Principles

Continue to Refocus Service Network

As additional opportunities for increasing service hours arise, MMT should allocate its resources to strengthen its core services. Using new resources to restore previously cut services and frequencies should not always be the default option. Historically, when service cuts have been made, the least productive services were targeted first. Restoring these unproductive services would do little to improve the effectiveness of the system. Instead, MMT should continue to refocus its network when additional resources become available, investing in the most productive services.

Build a Market-Based Network

The market assessment emphasized that the demand for transit in Colorado Springs varied, as some areas were more amenable to transit than others. A market-based network will utilize information such as population and employment densities as well as an area's current transit patterns in order to identify key markets for investment. MMT should optimize its resources by concentrating services in transit-supportive markets, providing higher levels of service in order to meet local demand. Markets that are projected to have a low demand for transit may not support traditional fixed route service. In these low-demand markets, other transit alternatives such as vanpool or service routes should be considered.

Enhance the Customer Experience (Span and Frequency)

Results from the 2010 Onboard Survey show that a majority of existing customers depend upon the transit system for mobility. The current system operates 6 days a week, which restricts the mobility of both current and potential passengers. The lack of an all-week service hinders ridership, preventing public transit from becoming a travel option for the entire week. With MMT's current network, transit customers who wish to travel on Sunday will need to identify means of transportation other than transit. This can lead to scenarios where customers continue to utilize the other mode of transportation for the remainder of the week as well, choosing to forgo transit altogether. Because of its potential impact on ridership growth and retention, Sunday service is one of the biggest unmet needs in the MMT system.

Another service improvement that enhances the customer experience is increases to frequency. Two-thirds of the present network operates at 60 minute frequencies. Lifeline services offer little flexibility in travel and struggle to attract a broad spectrum of customers. Currently, the most frequent MMT services operate at 30 minute frequencies. MMT can increase competitiveness by operating high-demand routes at spontaneous-use frequencies, defined as running every 15 minutes or better. Routes with spontaneous-use frequencies run often enough that passengers can arrive at a bus stop without consulting a schedule. The reduced wait times and increased flexibility of 15 minute service improves the overall customer experience and helps generate additional ridership.

Build Financial Sustainability

The final guiding principle aims to build financial sustainability through changes in service planning and community development practices. As discussed in the existing conditions, MMT has designed an efficient service, but the network needs to become more effective. Effectiveness is achieved through the adoption of design principles that minimize transit travel time and the duplication of service, leading to an increase in the total volume of ridership generated. Reducing travel time benefits the passenger, grows ridership, and reduces the resource investment necessary to operate the service. Duplicative services over-saturate the market and complicate trips for customers. Consolidating services also allows MMT to save resources while minimizing the mobility impact to passengers due to the duplicative nature of the routes being consolidated. The resources saved from consolidation can be reallocated to more productive services or markets with higher demand for transit.

Promoting the development of sustainable communities can improve the market for transit and subsequently, MMT's financial effectiveness. Sustainable communities improve the viability of alternative modes of transportation such as walking, bicycling, and public transit. In addition, sustainable communities traditionally result in higher density developments, an important factor in transit use. Sustainable development is a long term vision that will require buy-in from both local communities and governing bodies involved in land use decisions.

Applying the Guiding Principles: Design Objectives

The design objectives provide tangible directions for translating the guiding principles into actual service on the street. The following design objectives help focus recommendations at both the network and individual route level:

- **Continue to Refocus Service Network**
 - Invest improvements in key corridors rather than coverage.
 - Ensure consistency between individual recommendations with overall network design decisions.
- **Build a Market-Based Network**
 - Match service levels with market demand for transit.
 - Invest resources in areas where transit will have a better chance of succeeding. Routes have been more productive when operating in areas of high population or employment density.
- **Enhance the Customer Experience**
 - Create all week network which provides customers the opportunity to use transit on Sundays.
 - Implement spontaneous use frequency for highest-performing routes.
- **Build Financial Sustainability**
 - Reduce circuitous alignments and reconfigure routes to have more direct travel patterns.
 - Consolidate duplicative services where market does not warrant current level of service and reinvest resources into single effective route.
 - Consider operating cost, efficiency, and effectiveness when making route design decisions.
 - Consider non-fixed route service alternatives in low-demand areas.¹

¹ Non fixed route service alternatives can include service routes several areas (from the Citadel call-n-rides and point designated van pools. In this report, service routes – routes operated between two destinations on a defined route during select hours of the day in conjunction with paratransit services are Mall recommended in to Peterson AFB for example). Since service routes will be operated by the paratransit group, operating costs will align with the paratransit service operating costs. It is anticipated that the three service routes recommended will operate two trips in each peak period during weekdays. The projected savings in revenue hours for each service route is in the individual route profiles.

Recommendations Overview and Approach

Recommendations Overview

The MMT COA generates a refocused network through numerous route-level recommendations organized into three distinct phases. The recommendations were developed through an iterative and collaborative process supported by the data-analysis informed *Market Assessment*, *Service Evaluation*, and the *Guiding Principles*. Numerous network concepts and structures were designed based on a “clean-slate” review of transit service in Colorado Springs. Key findings about market conditions and existing service performance characteristics informed design objectives intended to shape a future vision for transit. Achieving broader structural network changes also involved modifications, eliminations, and additions of individual routes. Detailed route-level design choices used a similar approach to network level decisions to ensure a top-down, bottom-up consistent plan.

Phased Recommendations

The organization of recommendations into phases allows for clarity in future planning decisions and a manageable implementation process. Each subsequent phase builds upon changes from previous steps in an incremental manner; decisions made in earlier phases are preserved and potentially expanded upon in the next. When viewed as a whole, the phased recommendations present a cohesive vision for the overall network. The phases of recommendations were assembled collaboratively to generate an optimal balance of resource reallocation and investment based on projected funding availability. Additional financial details and key assumptions are provided in the following *Financial Plan* section.

The recommendations in the plan are presented in three different phases, structured so that lower priority changes or changes requiring more investment from MMT and the community occur in later phases. Although the subsequent plan makes recommendations and assigns them to specific phases, the final placement of specific recommendations is flexible. MMT may move a recommendation to an earlier or later phase. However, the recommendations assume that each phase has access to the same level of financial resources, which translates into the same number of hours for fixed route service in each phase. A key objective in the planning process was to maximize resources by ensuring that each phase utilized as many of the available service hours possible without going over the allotment. If a recommendation is moved to a different phase, other alterations must be made in order to balance the service hours available for each phase.

Key Recommendation Elements

The phased recommendations implement the vision outlined in the guiding principles and design objectives utilizing three core recommendation elements: adding Sunday service, increasing frequency on productive corridors (“H-Network”), and service redesign and restructuring.

Sunday Service

Sunday service is emphasized in all three phases because it addresses a key unmet need in the system, creating the all-week network that was highlighted in the design objectives as being critical to the customer experience. The MMT COA limits the Sunday network to the most productive routes so as to maximize financial resources and ensure that system effectiveness is maintained.

Increasing Frequency on Productive Corridors (“H-Network”)

The H-Network is a collection of routes that are projected to be the most productive routes in the network due to their historical performance, proposed design, or location in a transit-supportive, higher density markets. It is referred to as the H-Network because the routes that make up the network, Routes 5, 9, and 25, connect as an “H”. In addition to enhancing the passenger experience, increasing frequencies on the H-Network to spontaneous-use levels aligns with the design objectives of refocusing the service network and matching service levels with market demand for transit. The H-Network routes are anticipated to carry higher volumes of passengers, and investing in higher frequency on these routes will improve mobility for the customer.

Service Redesign

The final recommendation element, service redesign, encompasses three of the four guiding principles through the introduction of new routes, consolidation of underperforming services, and adjustments to alignment and frequency to increase system efficiency. This recommendation category reallocates unproductive resources for reinvestment in key services, corridors, and transit-supportive markets.

Service Products

A key finding in the *Service Evaluation* was that MMT did not differentiate enough between markets, operating just two frequencies of fixed route service when market conditions necessitated greater demarcation in service. The service products detailed in the following tables allow MMT to better tailor service types and levels based on local demand for transit in each market.

The added flexibility gained from the new service options provides MMT the opportunity to efficiently allocate its resources while maintaining service to different market types. In the case of areas currently not supportive of fixed route service, MMT has the option to reduce fixed route frequency or operate another service type altogether.

Service Products	
Service Class	Service Type
Corridor	<ul style="list-style-type: none"> • Key Corridor Local Bus: Conventional bus service, operating on a timetable following a pre-set route with identified stops that typically operate as part of a wider network of integrated routes. • Supporting Local Bus: Fixed route transit using of various size vehicles serving a specific community area with connections to the regional and/or subregional transit network.
Network Connections	<ul style="list-style-type: none"> • Network Completion: Fixed route transit service typically using smaller size vehicles to serving a specific community area with lower density development and demand patterns. These services provide geographic coverage where necessary and connect to the larger transit network at key transfer locations • Service Routes: A scheduled trip-based service providing tailored service from a network hub to a specific destination or group of destinations at a specific time of day. This service is operated as a scheduled trip, or at a narrower span of service, on smaller-size demand-responsive vehicles. Service routes provide transit service for specific trips where demand warrants, while avoiding the need for an all-day fixed route bus.
Express²	<ul style="list-style-type: none"> • Peak Direction Express Bus: Conventional express bus service, operating on a timetable following a pre-set route with identified stops connecting surrounding communities with downtown, typically for commute trips. • Reverse Commute Express Bus: Conventional express bus service, operating on a timetable following a pre-set route with identified stops connecting downtown with employment in surrounding communities, serving travel patterns opposite the typical peak, downtown oriented direction.

Figure 7: Service Products

² Express service is not included in the COA recommendations, but a description of the service is included for reference and guidance in the event MMT implements express service.

Service Products Application			
Service Type	Frequency Target (Minutes)	Network Role	Key Markets
Key Corridor Local Bus	15	Structural network corridor, fast sub-regional service	All-day, all-week community and sub-regional travel
Supporting Local Bus	30-60	Specific community area service connecting to network	All-day weekday community and sub-regional travel
Network Completion	60	Network completion and connection, service coverage	All-day weekday community and sub-regional travel
Service Route	Demand Based	Targeted network connection, trip-based demand	Community travel in less transit-conducive areas
Express Bus	Tailored to Demand	Freeway or key corridor based commute	Peak period regional and reverse commute travel

Figure 8: Service Products Application

Recommendations

The MMT COA generates a refocused network through numerous route-level recommendations organized into three distinct phases. The recommendations were developed through an iterative and collaborative process supported by the data-analysis informed *Market Assessment*, *Service Evaluation*, and the *Guiding Principles*. Numerous network concepts and structures were designed based on a “clean-slate” review of transit service in Colorado Springs. Key findings about market conditions and existing service performance characteristics informed design objectives intended to shape a future vision for transit. Achieving broader structural network changes also involved modifications, eliminations, and additions of individual routes. Detailed route-level design choices used a similar approach to network level decisions to ensure a top-down, bottom-up consistent plan.

Recommendation Phase Summary

The following summaries provide an overview of the proposed changes in each phase and how each phase contributes to the overall goal of strengthening transit in the MMT service area.

Phase 1

The first phase of the plan establishes Sunday service with minimal changes to the system as it currently exists. Resources previously dedicated to Routes 10 and 11 will be reallocated to Route 9, which will be responsible for serving their markets. The phase can include Sunday service with minimal changes due to the identification of additional funding sources.

Phase 2

Phase 2 expands upon the previous phase’s inclusion of Sunday service and directs the overall system towards become more financially sustainable. Three of the poorest performing routes: 15, 16, and 24 are converted from fixed routes into service routes. The conversion frees up service hours that are directed towards operating two routes on the H-Network at 15-minute frequencies.

Phase 3

MMT arrives at a critical decision point during the third phase of the plan. Two recommendation packages, Phase 3A and 3B, were developed with common goals but different funding assumptions. Both sets of recommendations result in the development of an all-day network with a high frequency H-Network, but differ in the amount of resources required to reach that service level. A key determining factor in choosing one of the plans will be based policy decisions regarding consolidation of underperforming service or identification of new funding. The phases show how additional funding can be used to accomplish a broader plan.

Phase 3A

Phase 3A accomplishes all-day service and frequency on the H-Network while staying under the allocated hours. It achieves this by building upon the sustainability practices in Phase 2 and consolidating additional marginally-performing routes. However, unlike Phase 2, routes that are consolidated in Phase 3A do not need to be converted into service routes because they were identified as duplicative in the service evaluation. Instead, resources are allocated towards the introduction of routes with unique connections that prepare the MMT network to become more of a grid-based network.

Phase 3B

Phase 3B accomplishes Sunday service and frequency without resolving to additional consolidation. It will require MMT to identify additional funding sources in order to fund the additional 2% increase in revenue hours. Phase 3B is not feasible at the moment due to limited resources, but if future funding opportunities present themselves, MMT will have the option of pursuing higher service levels on the H-Network via Phase 3B.

Recommendation Details by Plan Phase

The following section provides specific detail about recommendations within each phase, including an overview of the network level changes, route-level changes, proposed service levels and spans, and estimated operating costs.

Phase 1

Phase 1 introduces an all-week network through the addition of Sunday service with minimal changes to the current system. Two new routes that improved travel options for customers are implemented.

Function and Design Elements

Additional funding makes it possible for the recommendations in Phase 1 to establish Sunday service without making major adjustments to the existing service structure. The addition of Sunday service increases the viability of public transit as a mobility choice in the MMT service area. Resources from Routes 10 and 11 are consolidated and reallocated to Route 9, which will be realigned to serve the market between PPCC and UCCS. This decision eliminates Route 9's previously unproductive segment north of the university and positions it to become more of a focal point in the network. Furthermore, the Nevada corridor has been slated for multi-modal redevelopment which will benefit transit use.

Route-Level Changes

Eliminated and Decreased Service Levels:

- Route 10 eliminated due to poor performance and duplication with Route 11.
- Route 11 and Route 9 will be consolidated into a new Route 9. The route will operate between UCCS and PPCC, maintaining the most productive segments of Route 9's previous alignment.
- Routes 12 and 14 no longer operate on Saturday due to poor performance.

New Service and Improved Service Levels:

- Route 26 on Powers Blvd provides connectivity to employment and retail centers.
- Route 28 on Union is a direct connection between north Academy Blvd and downtown Colorado Springs, a high demand travel pattern that was previously unmet.
- Sunday service established for Routes 1, 3, 5, 7, 9, 25, 26, and 28. These are projected to be the routes with the highest demand for weekend service given previous service data and market analysis.

- Route 4 frequency increased from 60 to 45 minutes³.

Alignment Adjustments:

- Route 4 eliminates service south of Arcturus Drive(Regency Tower) due to very low ridership.
- Route 6 alignment moved onto the Nevada corridor to coincide with Route 9 and prepare for potential transition in Phase 3A.
- Route 9 shifts to Nevada north of downtown and serves UCCS via the Four Diamonds parking lot with a turnaround at Eagle Rock Road. Changed alignment in order to keep service on Nevada. Segment between UCCS and Chapel Hills Mall eliminated due to low productivity.

³Increasing frequency from 60 to 45 minutes is not considered a marked improvement from the perspective of the passenger and is not typically recommended. It is utilized in this scenario due to cycle time and efficiency considerations.

City of Colorado Springs Mountain Metropolitan Transit Comprehensive Operational Analysis

Phase 1 Annual Operating Resources			
Route	Revenue Hours	Revenue Miles	Peak Buses
1	8,810	122,450	2
3	8,620	107,110	2
4	3,320	31,910	1
5	7,090	64,580	2
6	4,380	58,810	1
7	10,080	121,770	2
8	2,250	29,270	1
9	17,400	210,480	4
12	3,320	45,580	1
14	6,460	89,510	2
15	4,590	79,050	1
16	5,100	67,510	2
22	3,320	42,100	1
24	3,320	60,030	1
25	18,670	313,840	4
26	4,750	60,260	1
28	4,660	68,340	1
32	3,320	54,100	1
Phase 1	119,460	1,626,700	30
Available Revenue Hours	122,960		
Difference	3,500		

Figure 9: Phase 1 Annual Operating Resources

Phase 1 Route-Level Service Levels						
Route	Frequency				Span	
	Peak	Off-Peak	Evening	Weekend	Weekday	Weekend
1	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
3	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
4	45	45	-	-	6:30A - 6:30P	-
5	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
6	60	60	-	-	5:30A - 6:30P	-
7	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
8	60	60	-	-	5:30A - 6:30P	-
9	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
12	60	60	-	-	5:30A - 6:30P	-
14	60	60	-	-	5:30A - 7:00P	-
15	60	60	-	-	6:00A - 7:00P	-
16	60	60	-	-	6:30A - 6:30P	-
22	60	60	-	-	6:00A - 7:00P	-
24	60	60	-	-	6:00A - 7:00P	-
25	30	30	60	60	5:00A - 10:00P	6:00A - 7:00P
26	60	60	-	60	5:30A - 6:30P	6:30A - 6:30P
28	60	60	-	60	5:30A - 7:00P	6:30A - 6:30P
32	60	60	-	-	6:00A - 7:00P	-

Figure 10: Route-Level Service Levels

Proposed Weekday Network - Phase 1 Mountain Metropolitan Transit

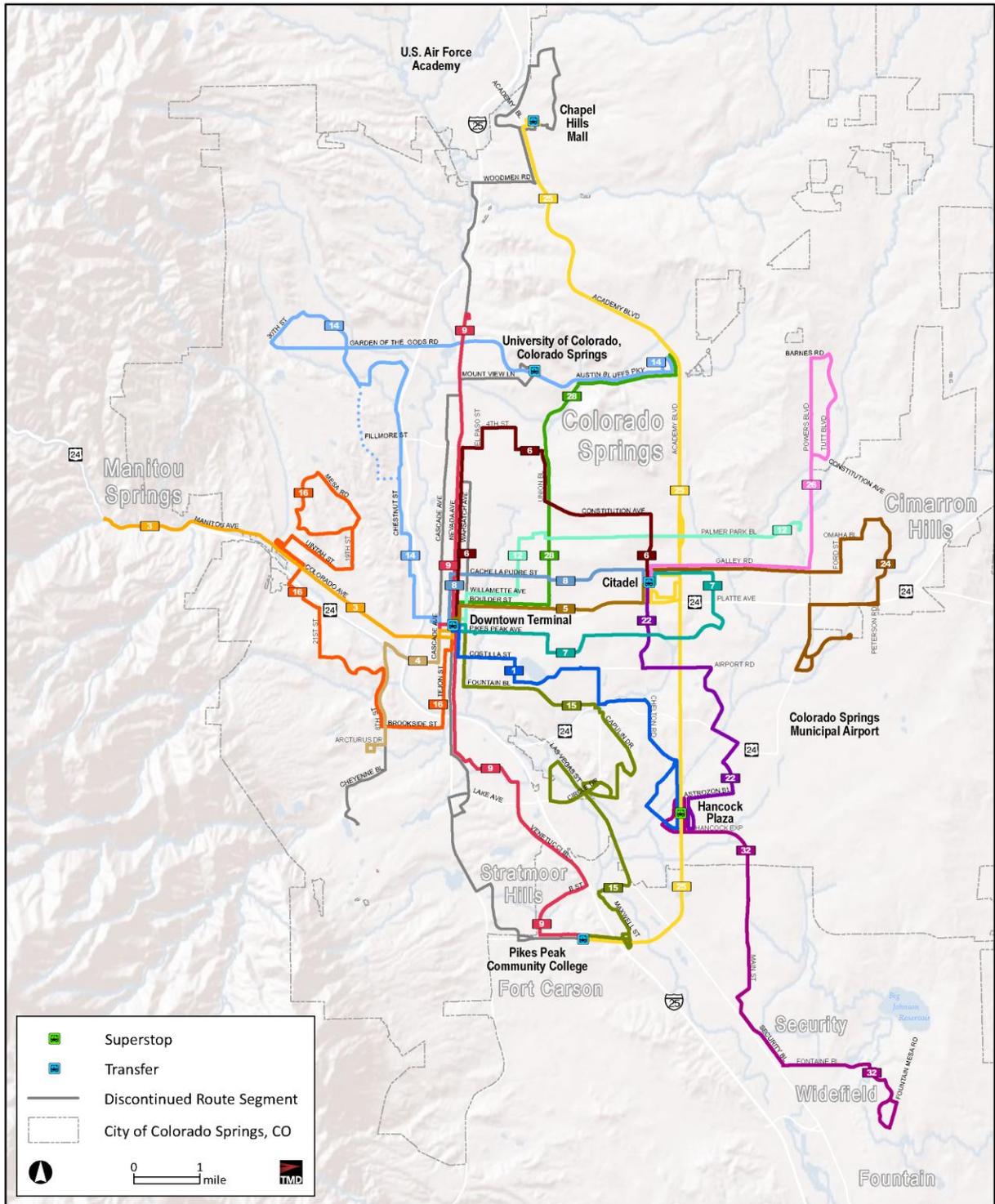


Figure 11: Proposed Weekday Network- Phase 1



Phase 2

Phase 2 builds on the improvements in the previous phase by reallocating resources from lower performing routes to establish 15-minute frequencies on two corridors in the H-Network

Function and Design Elements

Phase 2 establishes Sunday service and 15-minute frequencies on two of the routes in the H-Network through reallocation operating resources and service restructuring. Three of the poorest performing routes: 15, 16, and 24 are converted into service routes. It is anticipated that MMT staff will work with institutions, large employers and service agencies in the final design of the service routes planned for these low ridership areas. Route 32, the poorest performing route in the system, will not be converted into a service route in Phase 2 because of recent restructuring and its role in network completion. It is recommended that staff continue monitor the route's performance during future phases and make changes as necessary. The end result of Phase 2 is that transit-supportive markets receive an increase in frequency, while service levels in low-demand areas are adjusted to more appropriately match the demand for transit.

Route-Level Changes

Eliminated:

- In order to better match service levels with demand for transit, Routes 15, 16, and 24 are converted from fixed routes to service routes. The current demand in these markets did not warrant fixed route service. The service routes will operate 4 roundtrips during the peak every weekday.

New Service and Improved Service Levels:

- Frequency of Routes 5 and 9 are increased to 15 minutes during the peak. These changes promote the high frequency H-Network, the key routes in the MMT system.

Alignment Adjustments:

- Phase 2 does not include alignment adjustments.

Phase 2 Route-Level Service Levels						
Route	Frequency				Span	
	Peak	Off-Peak	Evening	Weekend	Weekday	Weekend
1	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
3	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
4	45	45	-	-	6:30A - 6:30P	-
5	15	30	60	60	5:30A - 9:30P	6:30A - 6:30P
6	60	60	-	-	5:30A - 6:30P	-
7	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
8	60	60	-	-	5:30A - 6:30P	-
9	15	30	60	60	5:30A - 9:30P	6:30A - 6:30P
12	60	60	-	-	5:30A - 6:30P	-
14	60	60	-	-	5:30A - 7:00P	-
22	60	60	-	-	6:00A - 7:00P	-
25	30	30	60	60	5:00A - 10:00P	6:00A - 7:00P
26	60	60	-	60	5:30A - 6:30P	6:30A - 6:30P
28	60	60	-	60	5:30A - 7:00P	6:30A - 6:30P
32	60	60	-	-	6:00A - 7:00P	-
15*	4 trips	-	-	-	Peak	-
16*	4 trips	-	-	-	Peak	-
24*	4 trips	-	-	-	Peak	-

Figure 12: Phase 2 Route-Level Service Levels

*Service Route

Phase 2 Annual Operating Resources			
Route	Revenue Hours	Revenue Miles	Peak Buses
1	8,810	122,450	2
3	8,620	107,110	2
4	3,320	31,910	1
5	10,150	87,590	4
6	4,380	58,810	1
7	10,080	121,770	2
8	2,250	29,270	1
9	21,990	284,530	7
12	3,320	45,580	1
14	6,460	89,510	2
22	3,320	42,100	1
25	18,670	313,840	4
26	4,750	60,260	1
28	4,660	68,340	1
32	3,320	54,100	1
15*	2,040	25,250	
16*	2,040	21,680	
24*	1,020	18,360	
Phase 2	119,200	1,582,460	31
Available Revenue Hours	122,960		
Difference	3,760		

Figure 13: Phase 2 Annual Operating Resources

*Each service route may require 1 to 2 additional vehicles from existing demand-response fleet



Proposed Weekday Network - Phase 2 Mountain Metropolitan Transit

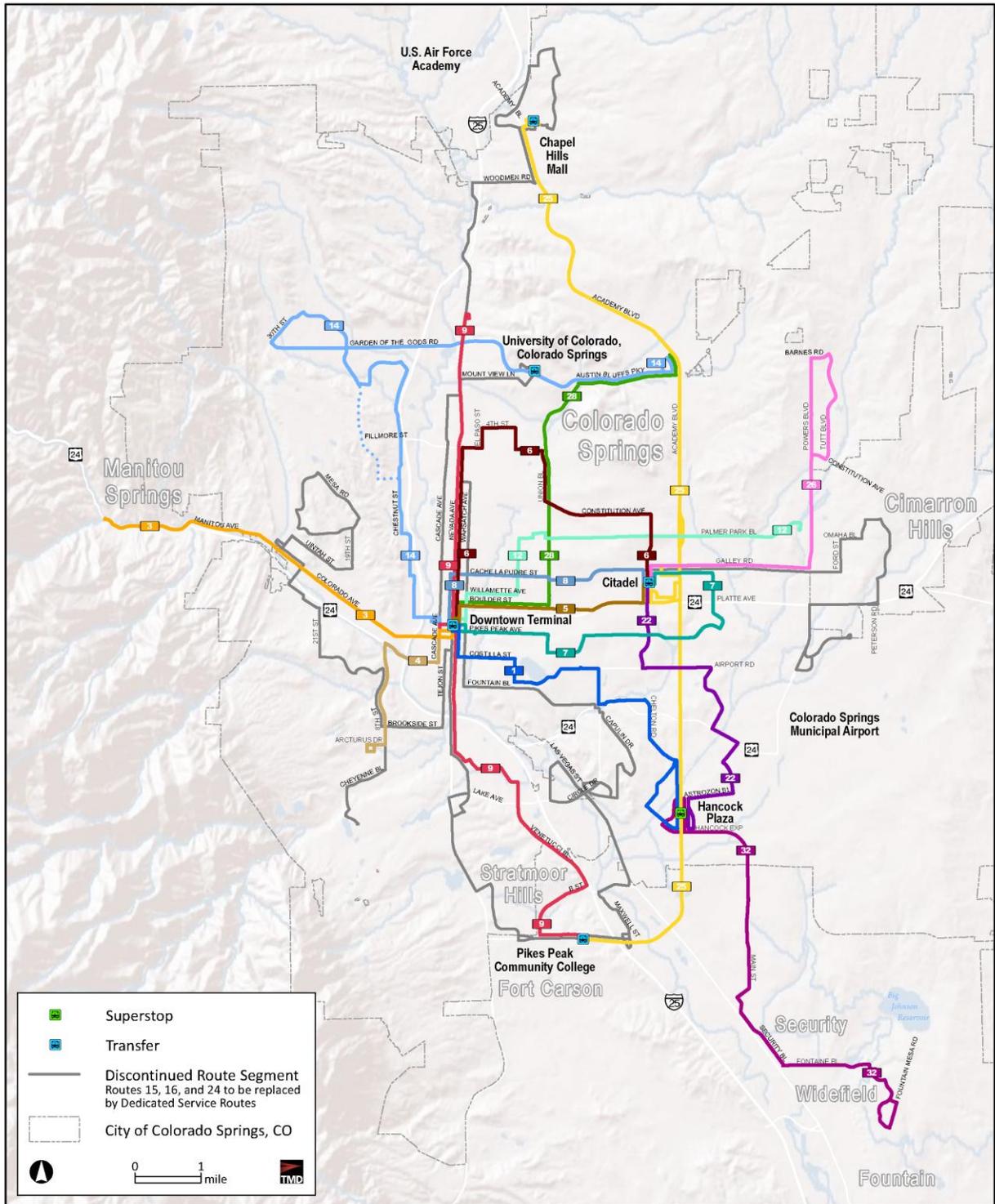


Figure 14: Proposed Weekday Network Phase 2



Phase 3A

Phase 3A establishes the frequent H-Network with 15 minute service on three corridors, continues Sunday service, and creates additional grid-based network travel options. Continued consolidation of less efficient and duplicative services allow for the addition of two that orient the network towards a more grid-based system, preparing it for future growth.

Function and Design Elements

Phase 3A accomplishes all-day service and frequency on the H-Network while staying within funding availability. This is done through the consolidation of inefficient Routes 6, 8, 12 and 22. While most of the routes have productivity near the system average, they are recommended for consolidation because of their duplicative nature. Reallocating resources from these services towards more unique alignments and markets allows MMT to serve a more diverse market, while minimizing the impact to current passengers. Routes 27 and 29 are introduced in Phase 3A and cover a majority of the areas served by Routes 6 and 8 but do so in a more direct and effective manner. The new routes position the MMT system to function more as a grid-based network, which improves overall effectiveness.

Route-Level Changes

Eliminated:

- Routes 6 and 8 eliminated due to duplicative service with Routes 5 and 7. The four routes serve the same terminals, but circuitous alignments make Routes 6 and 8 the least effective. Markets will be served by Routes 27, 28, and 29.
- Route 12 eliminated because of low performance. Market will be served by Routes 26 and 29.
- Route 22 eliminated because of low performance. Market demand for transit did not warrant fixed route service. Majority of market will be served by Route 25.

New Service and Improved Service Levels:

- Shortline version of Route 25 will be introduced and will allow MMT to provide an effective 15 minute service on the most productive segment of Route 25 between Chapel Hills Mall and Hancock Plaza.
- Route 27 will operate on Fillmore, connecting the future VA building with the Citadel. Passengers will have two opportunities to access the H-Network via Routes 9 and 25. Route 27 will serve a portion of the market previously covered by Route 26.
- Route 29 on Uintah connects the downtown terminal with the Citadel and serves portions of the market previously covered by Routes 6 and 12.

Alignment Adjustments:

- Phase 3A does not include alignment adjustments.

Phase 3A Route-Level Service Levels						
Route	Frequency				Span	
	Peak	Off-Peak	Evening	Weekend	Weekday	Weekend
1	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
3	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
4	45	45	-	-	6:30A - 6:30P	-
5	15	30	60	60	5:30A - 9:30P	6:30A - 6:30P
7	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
9	15	30	60	60	5:30A - 9:30P	6:30A - 6:30P
14	60	60	-	-	5:30A - 7:00P	-
25	15/60	30	60	60	5:00A - 10:00P	6:00A - 7:00P
26	60	60	-	60	5:30A - 6:30P	6:30A - 6:30P
27	60	60	-	-	5:30A - 6:30P	-
28	60	60	-	60	5:30A - 7:00P	6:30A - 6:30P
29	45	45	-	-	5:30A - 6:30P	-
32	60	60	-	-	6:00A - 7:00P	-
15*	4 trips	-	-	-	Peak	-
16*	4 trips	-	-	-	Peak	-
24*	4 trips	-	-	-	Peak	-

Figure 15: Phase 3A Route-Level Service Levels

*Service Route

Phase 3A Annual Operating Resources			
Route	Revenue Hours	Revenue Miles	Peak Buses
1	8,810	122,450	2
3	8,620	107,110	2
4	3,320	31,910	1
5	10,150	87,590	4
7	10,080	121,770	2
9	21,990	284,530	7
14	6,460	89,510	2
25	24,790	376,240	8
26	4,070	58,640	1
27	3,740	52,910	1
28	4,660	68,340	1
29	3,570	43,150	1
32	3,320	54,100	1
15*	2,040	25,250	
16*	2,040	21,680	
24*	1,020	18,360	
Phase 3A	118,680	1,563,540	33
Available Revenue Hours	122,960		
Difference	4,280		

Figure 16: Phase 2 Route-Level Service Levels

*Each service route may require 1 to 2 additional vehicles from existing demand-response fleet



Proposed Weekday Network - Phase 3A Mountain Metropolitan Transit

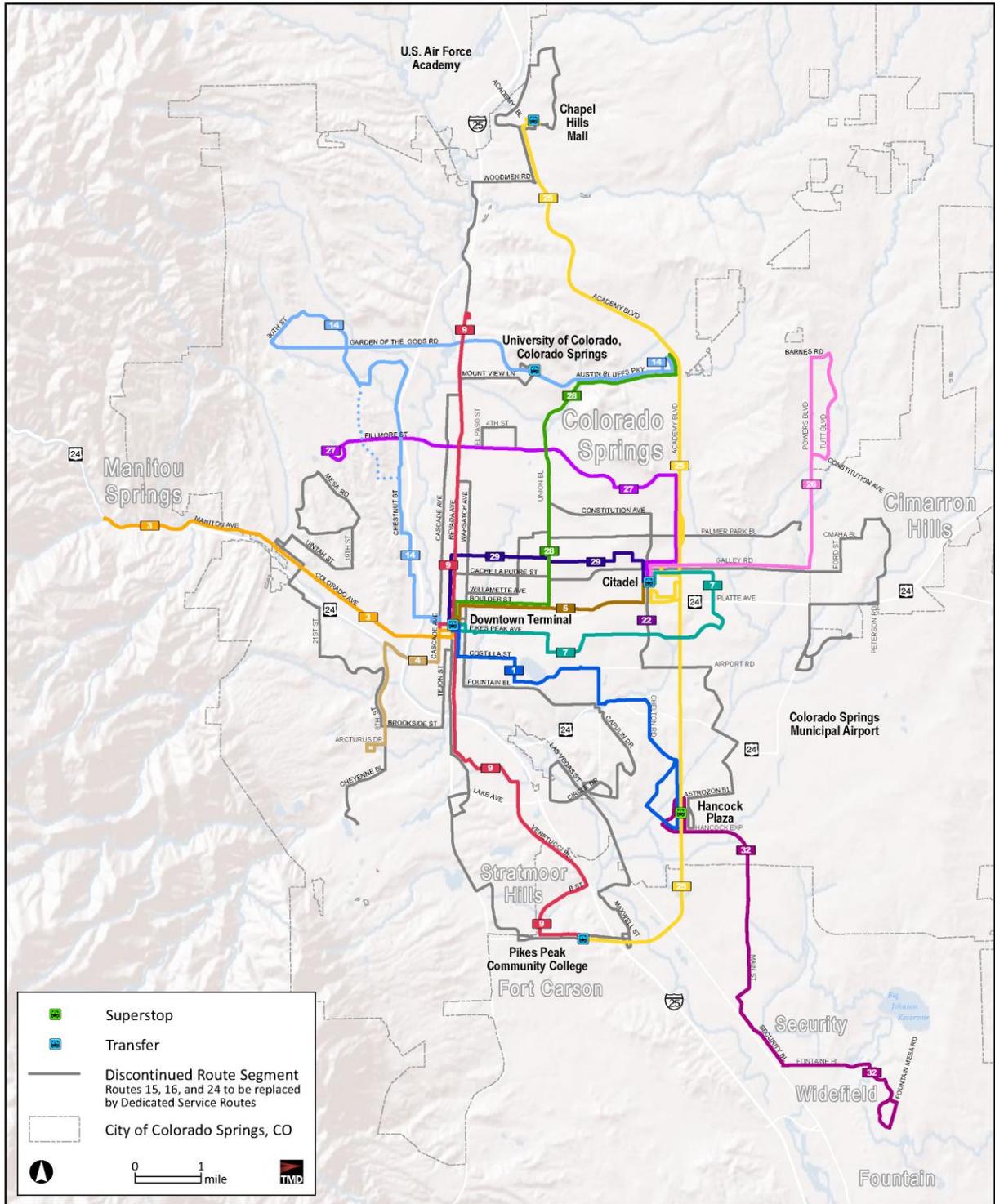


Figure 17: Proposed Weekday Network- Phase 3A

Phase 3B

Sunday service and frequency on the H-Network are established without additional route consolidations from the recommended network in Phase 2. This phase is projected to exceed the allotted revenue hours by 3%.

Function and Design Elements

Phase 3B achieves the same Sunday service and high frequency H-Network as Phase 3A but without route consolidations or introduction of new services. In order to operate Phase 3B, funding for an additional 3% in annual revenue hours will need to be secured. The MMT system will still benefit from the introduction of Sunday service and spontaneous-use frequencies, but its growth will be limited due to preservation of the underperforming routes.

Route-Level Changes

Eliminated:

- Phase 3B does not include any additional route eliminations.

New Service and Improved Service Levels:

- Shortline version of Route 25 will be introduced and will allow MMT to provide an effective 15 minute service on the most productive segment of Route 25 between Chapel Hills Mall and Hancock Plaza.

Alignment Adjustments:

- Phase 3B does not include alignment adjustments.

Phase 3B Route-Level Service Levels						
Route	Frequency				Span	
	Peak	Off-Peak	Evening	Weekend	Weekdays	Weekends
1	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
3	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
4	45	45	-	-	6:30A - 6:30P	-
5	15	30	60	60	5:30A - 9:30P	6:30A - 6:30P
6	60	60	-	-	5:30A - 6:30P	-
7	30	30	60	60	5:30A - 9:30P	6:30A - 6:30P
8	60	60	-	-	5:30A - 6:30P	-
9	15	30	60	60	5:30A - 9:30P	6:30A - 6:30P
12	60	60	-	-	5:30A - 6:30P	-
14	60	60	-	-	5:30A - 7:00P	-
22	60	60	-	-	6:00A - 7:00P	-
25	15/60	30	60	60	5:00A - 10:00P	6:00A - 7:00P
26	60	60	-	60	5:30A - 6:30P	6:30A - 6:30P
28	60	60	-	60	5:30A - 7:00P	6:30A - 6:30P
32	60	60	-	-	6:00A - 7:00P	-
15*	4 trips	-	-	-	Peak	-
16*	4 trips	-	-	-	Peak	-
24*	4 trips	-	-	-	Peak	-

Figure 18: Phase 3B Route-Level Service Levels

*Service Route

Phase 3B Annual Operating Resources			
Route	Revenue Hours	Revenue Miles	Peak Buses
1	8,810	122,450	2
3	8,620	107,110	2
4	3,320	31,910	1
5	10,150	87,590	4
6	4,380	58,810	1
7	10,080	121,770	2
8	2,250	29,270	1
9	21,990	284,530	7
12	3,320	45,580	1
14	6,460	89,510	2
22	3,320	42,100	1
25	24,790	376,240	8
26	4,750	60,260	1
28	4,660	68,340	1
32	3,320	54,100	1
15*	2,040	25,250	
16*	2,040	21,680	
24*	1,020	18,360	
Phase 3B	125,320	1,644,860	35
Available Revenue Hours	122,960		
Difference	(2,360)		

Figure 19: Operating Resources

*Each service route may require 1 to 2 additional vehicles from existing demand-response fleet



Proposed Weekday Network - Phase 3B Mountain Metropolitan Transit

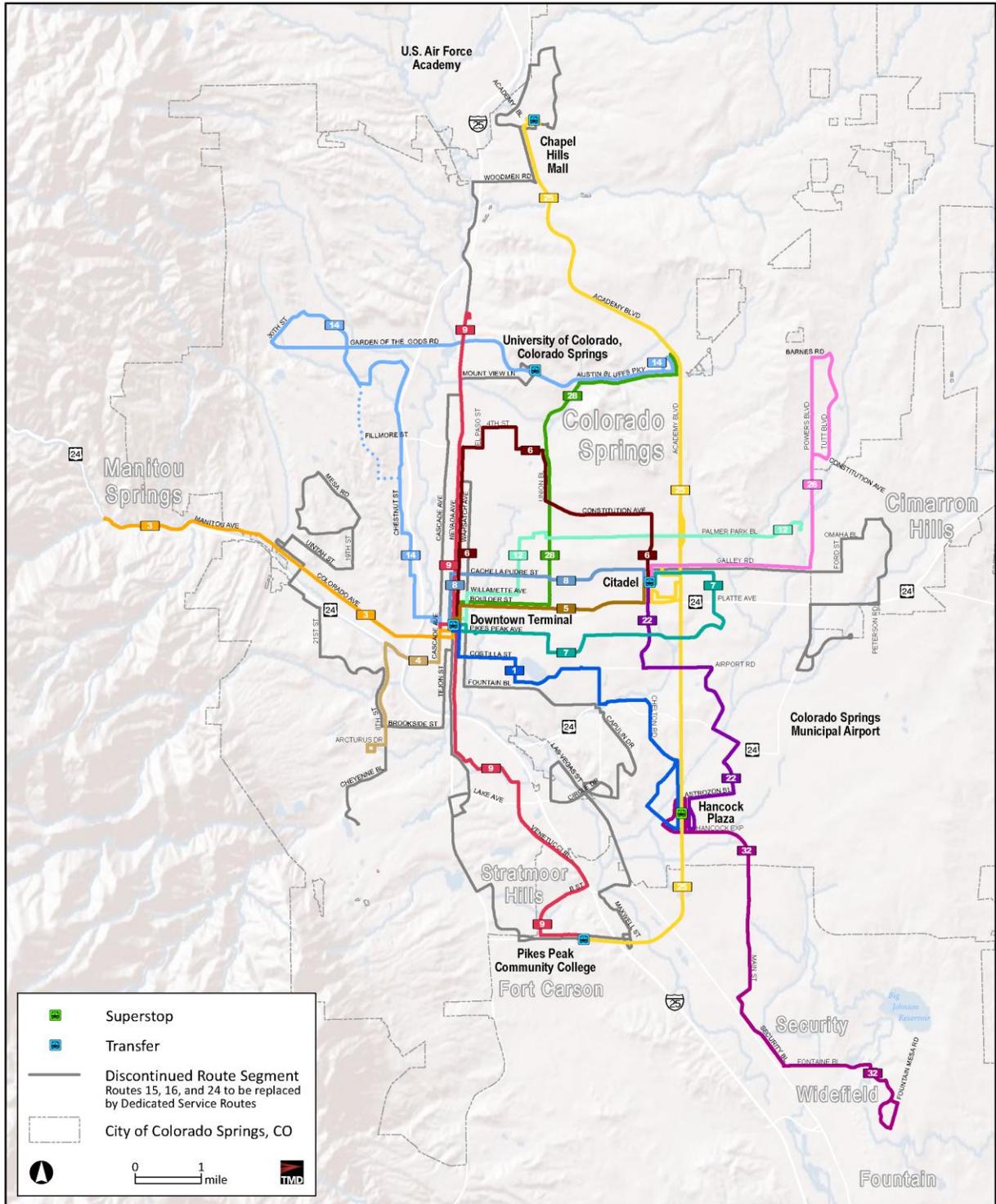


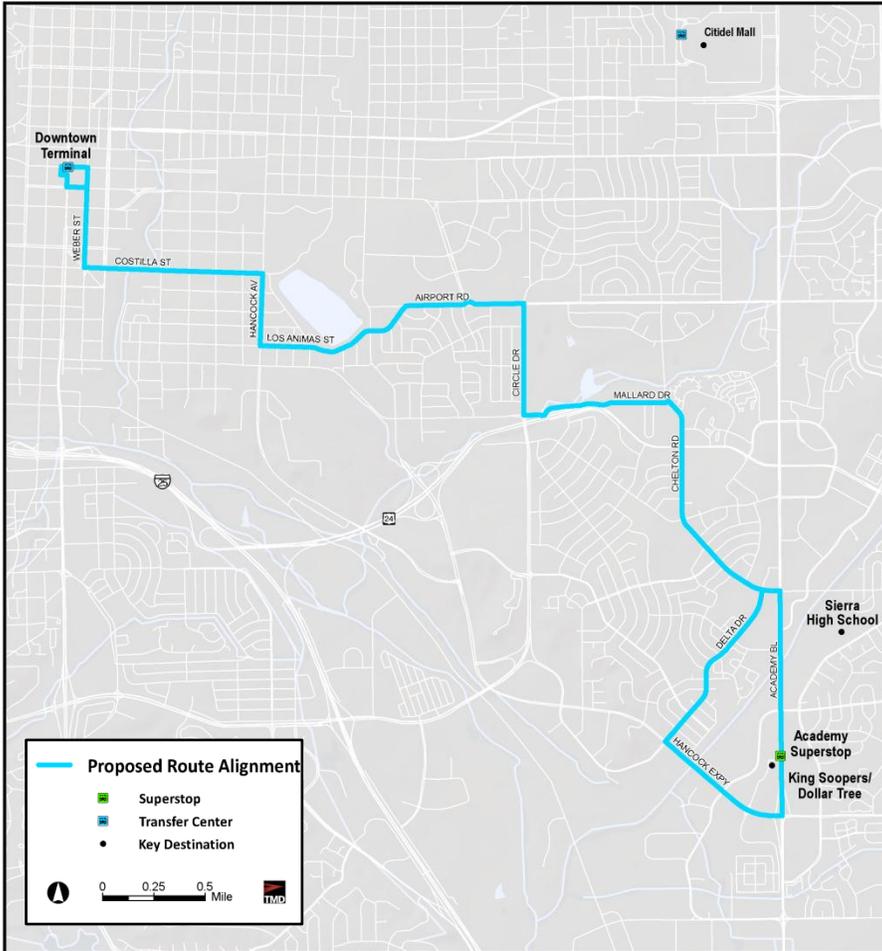
Figure 20: Proposed Weekday Network- Phase 3B

Individual Route Level Recommendations Detail

The following individual route profiles provide a one-page snapshot of all the key information for each route by plan phase, including:

- **Route Map:** Details the specific streets the route operates on.
- **Existing Conditions Key Findings:** A summary of the most pertinent key findings from the existing conditions analysis which informed the design decisions made for the route.
- **Design Objectives and Network Role:** This section places the individual route into the larger network context while highlighting its specific function.
- **Specific Recommendations by Phase:** Provides detail about the phasing of specific recommendations for the route, service levels, service spans, and estimated annual operating costs.

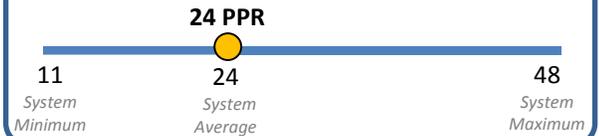
Route 1 Phased Recommendations



Existing Conditions Key Findings

- Operates every 30 minutes and achieves average productivity compared to the rest of the system.
- Productivity does not make this route a candidate for consolidation or investment.

Current Productivity



Design Objectives and Network Role

- Route 1's current design provides its market area with an appropriate level of service.
- The route should maintain its existing alignment and frequency in order to continue the same level of service.
- Included in the all-week network, operating on Sundays.

Phase 1

Implement Sunday Service.

Frequency

Peak	30
Off-Peak	30
Night	60
Sat/Sun	60

Span of Service

Weekday	5:45AM - 9:30PM
Sat/Sun	6:30AM - 6:30PM

Annual Operating Costs

Revenue Hours:	8,810
Revenue Miles:	122,450
Peak Vehicles:	2
Interlined with Route 3	

Phase 2

No changes from Phase 1.

Frequency

Peak	30
Off-Peak	30
Night	60
Sat/Sun	60

Span of Service

Weekday	5:45AM - 9:30PM
Sat/Sun	6:30AM - 6:30PM

Annual Operating Costs

Revenue Hours:	8,810
Revenue Miles:	122,450
Peak Vehicles:	2
Interlined with Route 3	

Phase 3A

No changes from Phase 2.

Frequency

Peak	30
Off-Peak	30
Night	60
Sat/Sun	60

Span of Service

Weekday	5:45AM - 9:30PM
Sat/Sun	6:30AM - 6:30PM

Annual Operating Costs

Revenue Hours:	8,810
Revenue Miles:	122,450
Peak Vehicles:	2
Interlined with Route 3	

Phase 3B

No changes from Phase 2.

Frequency

Peak	30
Off-Peak	30
Night	60
Sat/Sun	60

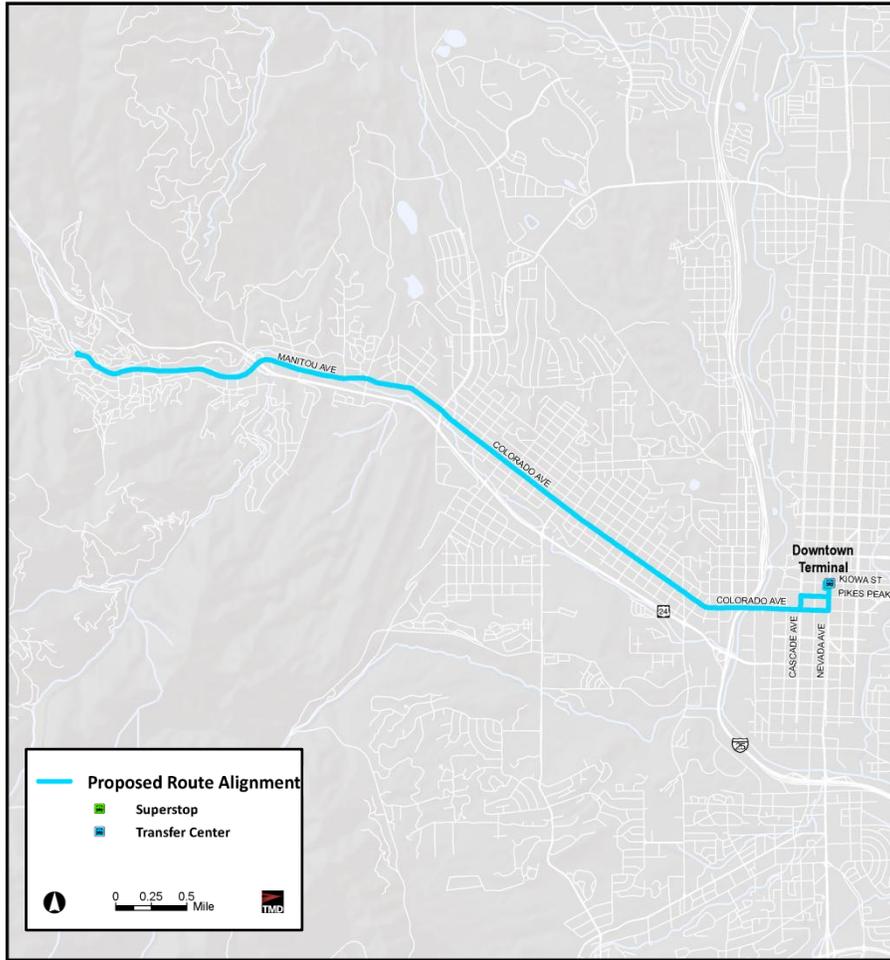
Span of Service

Weekday	5:45AM - 9:30PM
Sat/Sun	6:30AM - 6:30PM

Annual Operating Costs

Revenue Hours:	8,810
Revenue Miles:	122,450
Peak Vehicles:	2
Interlined with Route 3	

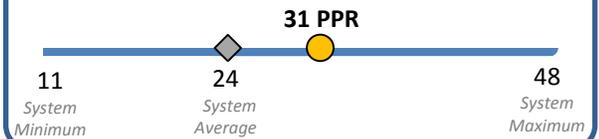
Route 3 Phased Recommendations



Existing Conditions Key Findings

- An efficiently designed route, traveling along a linear corridor connecting downtown Colorado Springs with the Manitou Springs area.
- Able to maintain higher levels of productivity because of its direct alignment.

Current Productivity



Design Objectives and Network Role

- Route 3 was considered a candidate for additional investment. However, it is recommended that Route 3 continue operating at 30 minute frequencies due to resource constraints and other routes being stronger candidates.
- Part of the all-week network because of its strong productivity.

Phase 1

Establish Sunday service.

Frequency		Span of Service	Annual Operating Costs
Peak	30	Weekday 5:45AM - 9:30PM	Revenue Hours: 8,620
Off-Peak	30	Sat/Sun 6:30AM - 6:30PM	Revenue Miles: 107,110
Night	60		Peak Vehicles: 2
Sat/Sun	60		Interlined with Route 1

Phase 2

No changes from Phase 1.

Frequency		Span of Service	Annual Operating Costs
Peak	30	Weekday 5:45AM - 9:30PM	Revenue Hours: 8,620
Off-Peak	30	Sat/Sun 6:30AM - 6:30PM	Revenue Miles: 107,110
Night	60		Peak Vehicles: 2
Sat/Sun	60		Interlined with Route 1

Phase 3A

No changes from Phase 2.

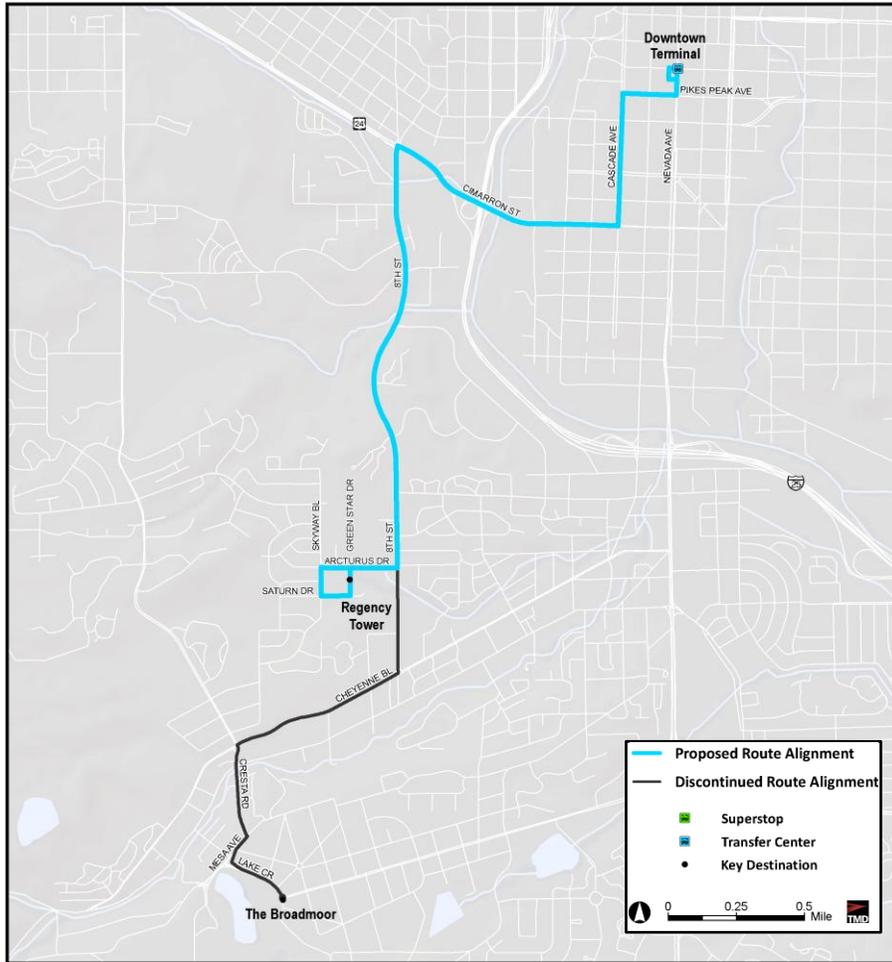
Frequency		Span of Service	Annual Operating Costs
Peak	30	Weekday 5:45AM - 9:30PM	Revenue Hours: 8,620
Off-Peak	30	Sat/Sun 6:30AM - 6:30PM	Revenue Miles: 107,110
Night	60		Peak Vehicles: 2
Sat/Sun	60		Interlined with Route 1

Phase 3B

No changes from Phase 2.

Frequency		Span of Service	Annual Operating Costs
Peak	30	Weekday 5:45AM - 9:30PM	Revenue Hours: 8,620
Off-Peak	30	Sat/Sun 6:30AM - 6:30PM	Revenue Miles: 107,110
Night	60		Peak Vehicles: 2
Sat/Sun	60		Interlined with Route 1

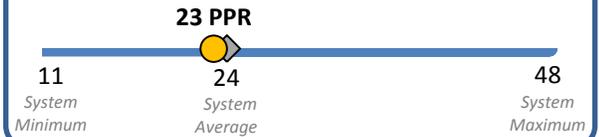
Route 4 Phased Recommendations



Existing Conditions Key Findings

- Consists of a short alignment serving Regency Tower and The Broadmoor.
- Does not carry a high volume of passengers, but generates average productivity due in part to its efficient cycle time.

Current Productivity



Design Objectives and Network Role

- Due to very low passenger boardings, route will terminate at Regency Tower. The demand for transit south of the Regency did not warrant the service.
- Frequency changed to 45 minutes, which is not considered a marked improvement from the passenger perspective. Only recommended due to cycle time and efficiency considerations.

Phase 1

Adjust alignment to end at Regency Towers. In order to maximize efficiency and potential ridership, increase frequency from 60 to 45 minutes.

Frequency		Span of Service		Annual Operating Costs	
Peak	45	Weekday	6:15AM - 6:45PM	Revenue Hours:	3,320
Off-Peak	45	Sat/Sun	-	Revenue Miles:	31,910
Night				Peak Vehicles:	1
Sat/Sun					

Phase 2

No changes from Phase 1.

Frequency		Span of Service		Annual Operating Costs	
Peak	45	Weekday	6:15AM - 6:45PM	Revenue Hours:	3,320
Off-Peak	45	Sat/Sun	-	Revenue Miles:	31,910
Night				Peak Vehicles:	1
Sat/Sun					

Phase 3A

No changes from Phase 2.

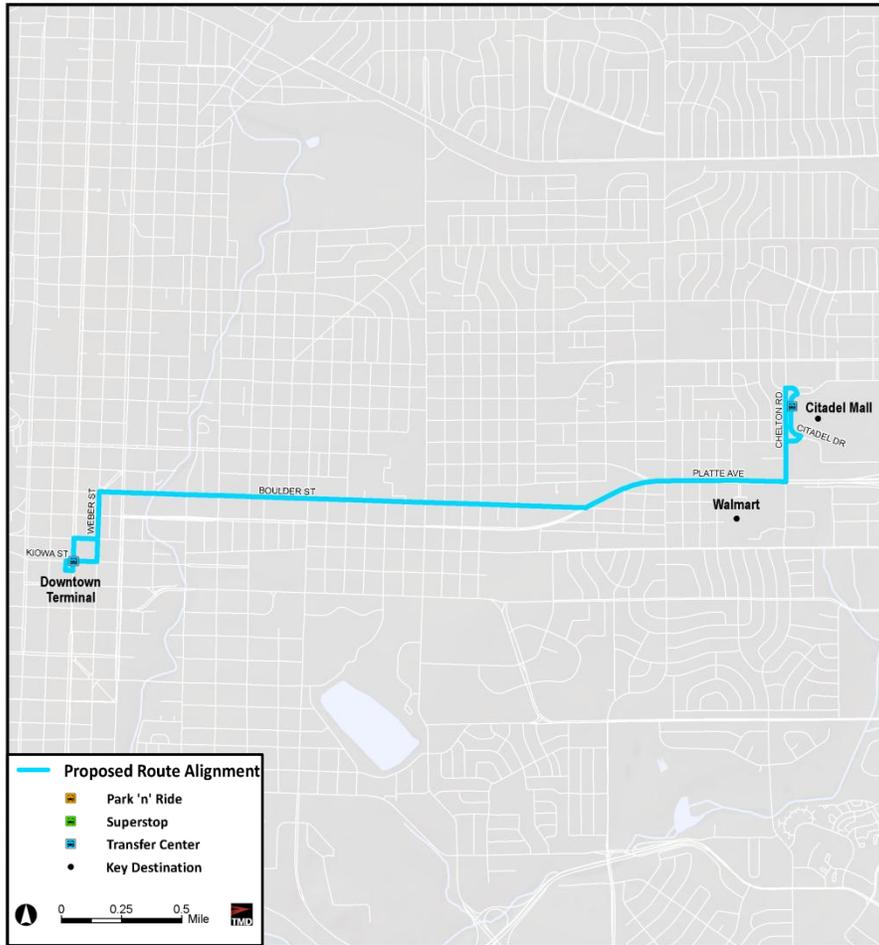
Frequency		Span of Service		Annual Operating Costs	
Peak	45	Weekday	6:15AM - 6:45PM	Revenue Hours:	3,320
Off-Peak	45	Sat/Sun	-	Revenue Miles:	31,910
Night				Peak Vehicles:	1
Sat/Sun					

Phase 3B

No changes from Phase 2.

Frequency		Span of Service		Annual Operating Costs	
Peak	45	Weekday	6:15AM - 6:45PM	Revenue Hours:	3,320
Off-Peak	45	Sat/Sun	-	Revenue Miles:	31,910
Night				Peak Vehicles:	1
Sat/Sun					

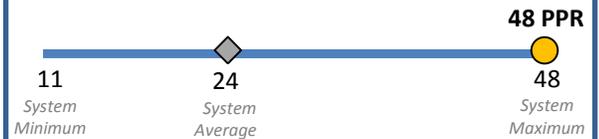
Route 5 Phased Recommendations



Existing Conditions Key Findings

- The most productive route in the system, connecting the downtown terminal and the Citadel.
- The service evaluation identified 4 duplicative services connecting both the downtown terminal and the Citadel (5, 6, 7, and 8). Ridership patterns demonstrated that many passengers on these routes were through riders, utilizing the service to access the terminals.

Current Productivity



Design Objectives and Network Role

- Offers the most direct connection between the terminal points, reflected in the strong performance.
- Route is a candidate for increased investment and will become a part of the high-frequency H-Network.

Phase 1

Establish Sunday service.

Frequency		Span of Service		Annual Operating Costs	
Peak	30	Weekday	5:45AM - 9:30PM	Revenue Hours:	7,090
Off-Peak	30	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	64,580
Night	60			Peak Vehicles:	2
Sat/Sun	60			Interlined with Route 7	

Phase 2

Increase service levels to every 15 minutes during the peak. Non-interlined service will operate every 30 minutes in addition to the 5/7 interlined service.

Frequency		Span of Service		Annual Operating Costs	
Peak	15	Weekday	5:45AM - 9:30PM	Revenue Hours:	10,150
Off-Peak	30	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	87,590
Night	60			Peak Vehicles:	4
Sat/Sun	60			Interlined with Route 7	

Phase 3A

No changes from Phase 2.

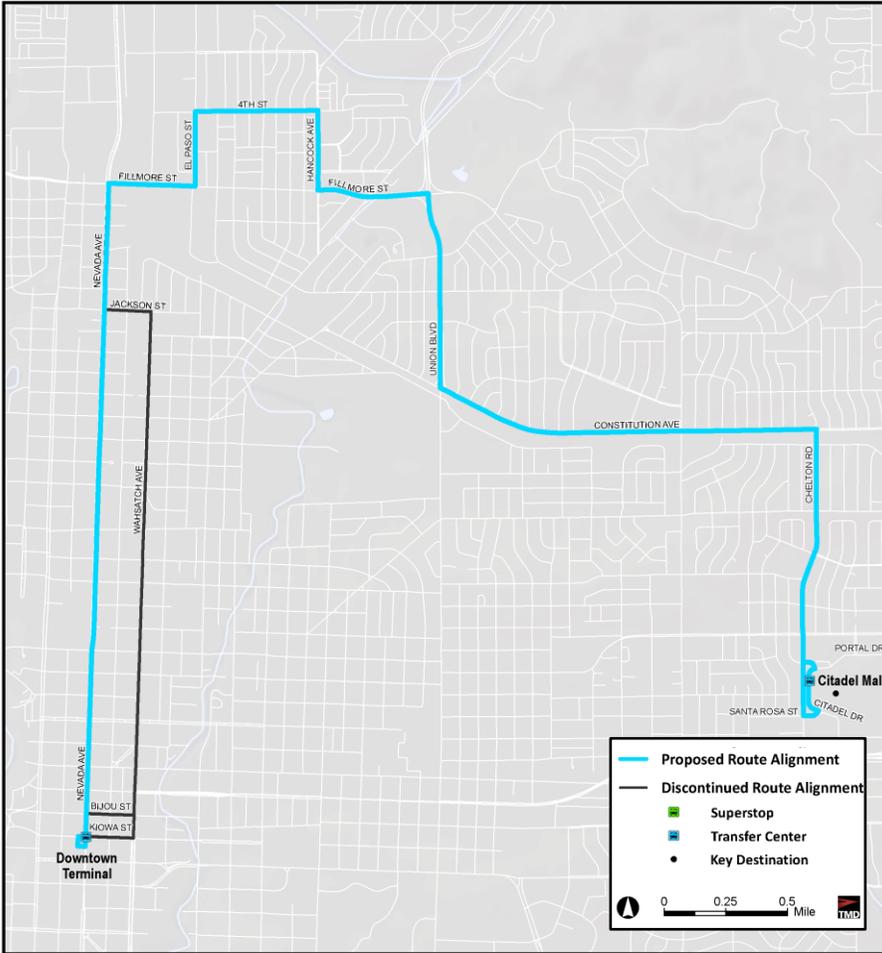
Frequency		Span of Service		Annual Operating Costs	
Peak	15	Weekday	5:45AM - 9:30PM	Revenue Hours:	10,150
Off-Peak	30	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	87,590
Night	60			Peak Vehicles:	4
Sat/Sun	60			Interlined with Route 7	

Phase 3B

No changes from Phase 2.

Frequency		Span of Service		Annual Operating Costs	
Peak	15	Weekday	5:45AM - 9:30PM	Revenue Hours:	10,150
Off-Peak	30	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	87,590
Night	60			Peak Vehicles:	4
Sat/Sun	60			Interlined with Route 7	

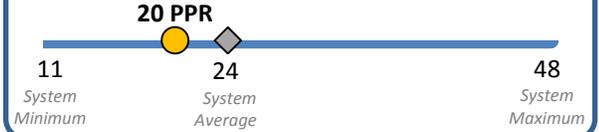
Route 6 Phased Recommendations



Existing Conditions Key Findings

- The least productive service of the 4 routes connecting downtown Colorado Springs and the Citadel.
- Highest volume of passenger activity occurs at the terminals.

Current Productivity



Design Objectives and Network Role

- Highest activity occurs at the terminals, but other routes such as 5 and 7 do a more efficient job of serving those areas.
- The route should be adjusted to serve a more unique market. In Phase 3A, it is consolidated and its resources are directed towards operating a more direct east-west connection north of downtown Colorado Springs. This prepares the network to become more grid-based.

Phase 1

Adjusted alignment to operate on Nevada with Route 9 instead of on Waisatch Ave.

Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	5:45AM - 6:45PM	Revenue Hours:	4,380
Off-Peak	60	Sat/Sun	-	Revenue Miles:	58,810
Night				Peak Vehicles:	1
Sat/Sun				Interlined with Route 8	

Phase 2

No changes from phase 1.

Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	5:45AM - 6:45PM	Revenue Hours:	4,380
Off-Peak	60	Sat/Sun	-	Revenue Miles:	58,810
Night				Peak Vehicles:	1
Sat/Sun				Interlined with Route 8	

Phase 3A

Discontinue route and substitute service with Routes 9, 27, and 28.

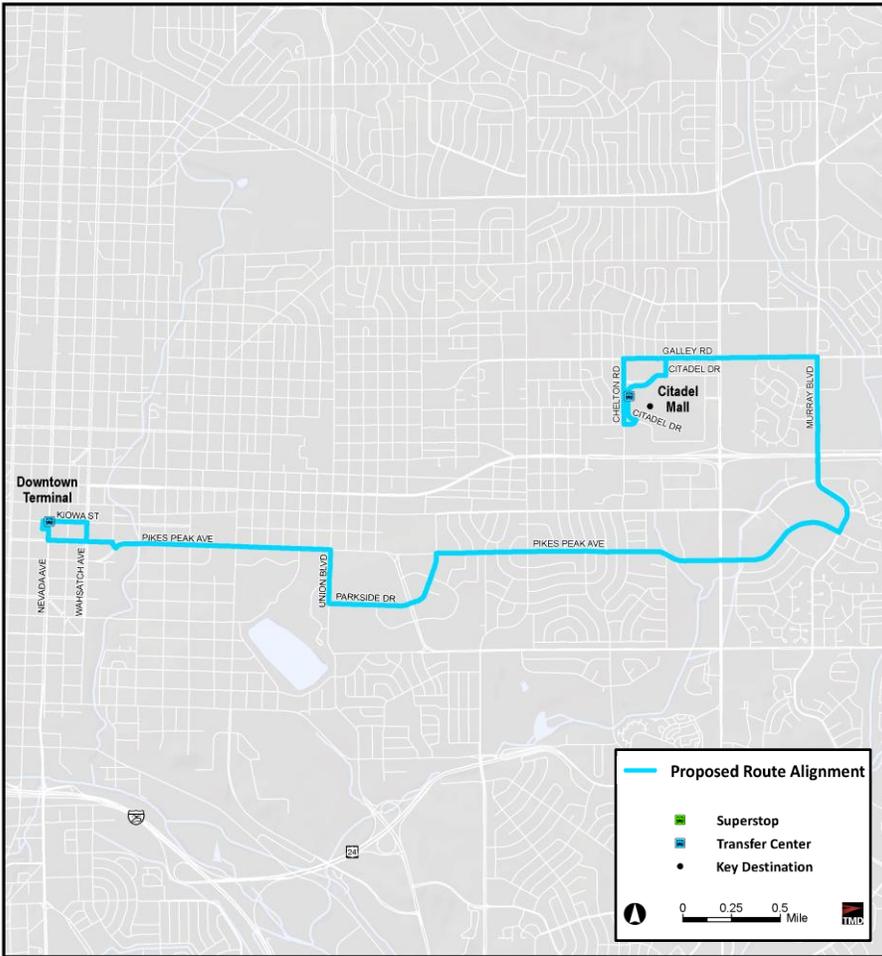
Frequency		Span of Service		Annual Operating Costs	
Peak		Weekday		Revenue Hours:	
Off-Peak		Sat/Sun	-	Revenue Miles:	
Night				Peak Vehicles:	
Sat/Sun					

Phase 3B

No changes from phase 2.

Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	5:45AM - 6:45PM	Revenue Hours:	4,380
Off-Peak	60	Sat/Sun	-	Revenue Miles:	58,810
Night				Peak Vehicles:	1
Sat/Sun				Interlined with Route 8	

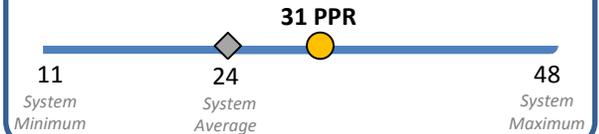
Route 7 Phased Recommendations



Existing Conditions Key Findings

- Route is interlined with Route 5 and is the second most effective connection to downtown and the Citadel.
- Route design features out-of-direction travel along Murray Blvd and Galley Rd, but the ridership it generates on this segment is high enough to maintain its above-average productivity.

Current Productivity



Design Objectives and Network Role

- Routes 5 and 7 will continue to be the main service between downtown Colorado Springs and the Citadel.
- Route will also become a part of the all-day network.

Phase 1

Establish Sunday service.

Frequency		Span of Service		Annual Operating Costs	
Peak	30	Weekday	5:45AM - 9:30PM	Revenue Hours:	10,080
Off-Peak	30	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	121,770
Night	60			Peak Vehicles:	2
Sat/Sun	60			Interlined with Route 5	

Phase 2

No changes from phase 1.

Frequency		Span of Service		Annual Operating Costs	
Peak	30	Weekday	5:45AM - 9:30PM	Revenue Hours:	10,080
Off-Peak	30	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	121,770
Night	60			Peak Vehicles:	2
Sat/Sun	60			Interlined with Route 5	

Phase 3A

No changes from phase 2.

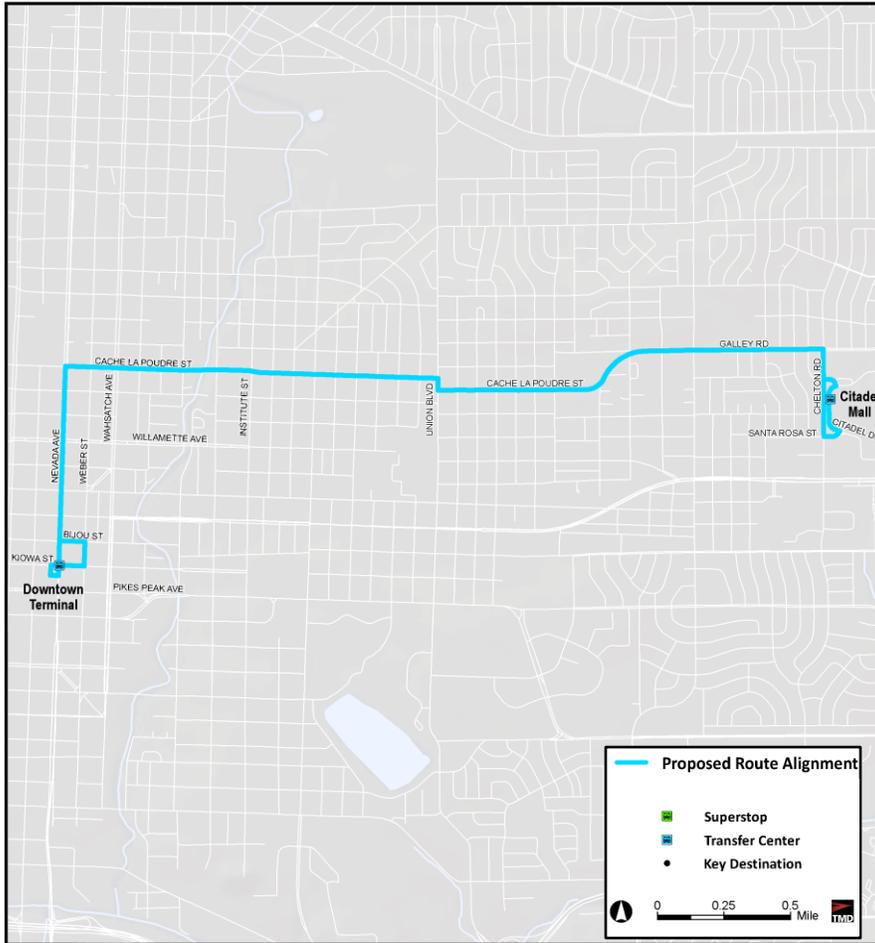
Frequency		Span of Service		Annual Operating Costs	
Peak	30	Weekday	5:45AM - 9:30PM	Revenue Hours:	10,080
Off-Peak	30	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	121,770
Night	60			Peak Vehicles:	2
Sat/Sun	60			Interlined with Route 5	

Phase 3B

No changes from phase 2.

Frequency		Span of Service		Annual Operating Costs	
Peak	30	Weekday	5:45AM - 9:30PM	Revenue Hours:	10,080
Off-Peak	30	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	121,770
Night	60			Peak Vehicles:	2
Sat/Sun	60			Interlined with Route 5	

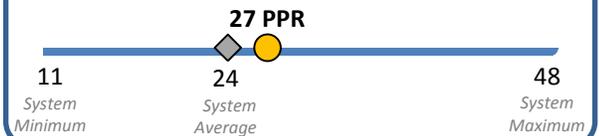
Route 8 Phased Recommendations



Existing Conditions Key Findings

- The final connection between downtown Colorado Springs and the Citadel. Similar to Route 6, the passenger activity is very limited at locations other than terminals.
- Routes 5 and 7 perform better are because of their greater frequencies, more direct alignment, and serve markets that are more conducive to transit ridership.

Current Productivity



Design Objectives and Network Role

- Resources from Route 8 will be reallocated in Phase 3A to better serve a unique market. Routes 6 and 8 cannot compete with the productivity of 5 and 7 and resources showed be shifted to new markets and services.

Phase 1

No changes from current design.

Frequency	Span of Service	Annual Operating Costs
Peak 60	Weekday 5:45AM - 6:45PM	Revenue Hours: 2,250
Off-Peak 60	Sat/Sun -	Revenue Miles: 29,270
Night		Peak Vehicles: 1
Sat/Sun		Interlined with Route 6

Phase 2

No changes from Phase 1.

Frequency	Span of Service	Annual Operating Costs
Peak 60	Weekday 5:45AM - 6:45PM	Revenue Hours: 2,250
Off-Peak 60	Sat/Sun -	Revenue Miles: 29,270
Night		Peak Vehicles: 1
Sat/Sun		Interlined with Route 6

Phase 3A

Consolidate route with service area is covered by Route 29.

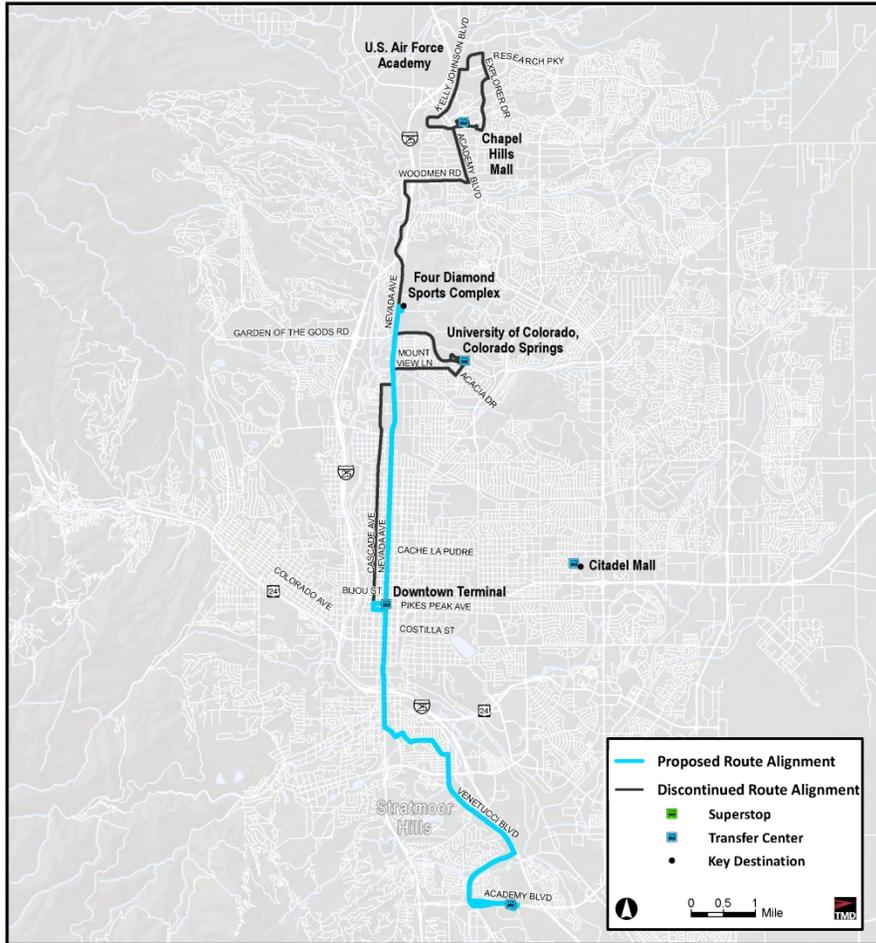
Frequency	Span of Service	Annual Operating Costs
Peak	Weekday	Revenue Hours:
Off-Peak	Sat/Sun -	Revenue Miles:
Night		Peak Vehicles:
Sat/Sun		

Phase 3B

No changes from Phase 2.

Frequency	Span of Service	Annual Operating Costs
Peak 60	Weekday 5:45AM - 6:45PM	Revenue Hours: 2,250
Off-Peak 60	Sat/Sun -	Revenue Miles: 29,270
Night		Peak Vehicles: 1
Sat/Sun		Interlined with Route 6

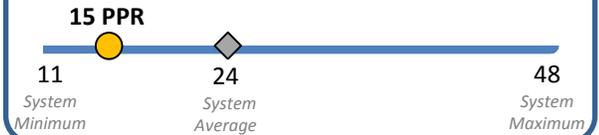
Route 9 Phased Recommendations



Existing Conditions Key Findings

- Only route that runs a short and long line.
- Market south of UCCS is the strongest segment of the route. It is served by both the short and long line at a combined 30 minute frequency.
- Northern half of the route receives 60 minute service and struggles to develop a ridership base, which brings down the overall productivity of the route.

Current Productivity



Design Objectives and Network Role

- Will no longer serve the area north of UCCS due to the limited market demand.
- Will consolidate with Route 11 and become one route. It is projected to be a key route in the system, ultimately becoming a part of the high-frequency H-Network

Phase 1

Resources from Routes 10 and 11 allocated to new Route 9 configuration, which travels from UCCS to PPCC via Nevada Ave. Establish Sunday service.

	Frequency	Span of Service	Annual Operating Costs
Peak	30	Weekday 5:45AM - 9:30PM	Revenue Hours: 17,400
Off-Peak	30	Sat/Sun 6:30AM - 6:30PM	Revenue Miles: 210,480
Night	60		Peak Vehicles: 4
Sat/Sun	60		

Phase 2

Increase frequency from 30 to 15 minutes during the weekday peaks.

	Frequency	Span of Service	Annual Operating Costs
Peak	15	Weekday 5:45AM - 9:30PM	Revenue Hours: 21,990
Off-Peak	30	Sat/Sun 6:30AM - 6:30PM	Revenue Miles: 284,530
Night	60		Peak Vehicles: 7
Sat/Sun	60		

Phase 3A

No changes from Phase 2.

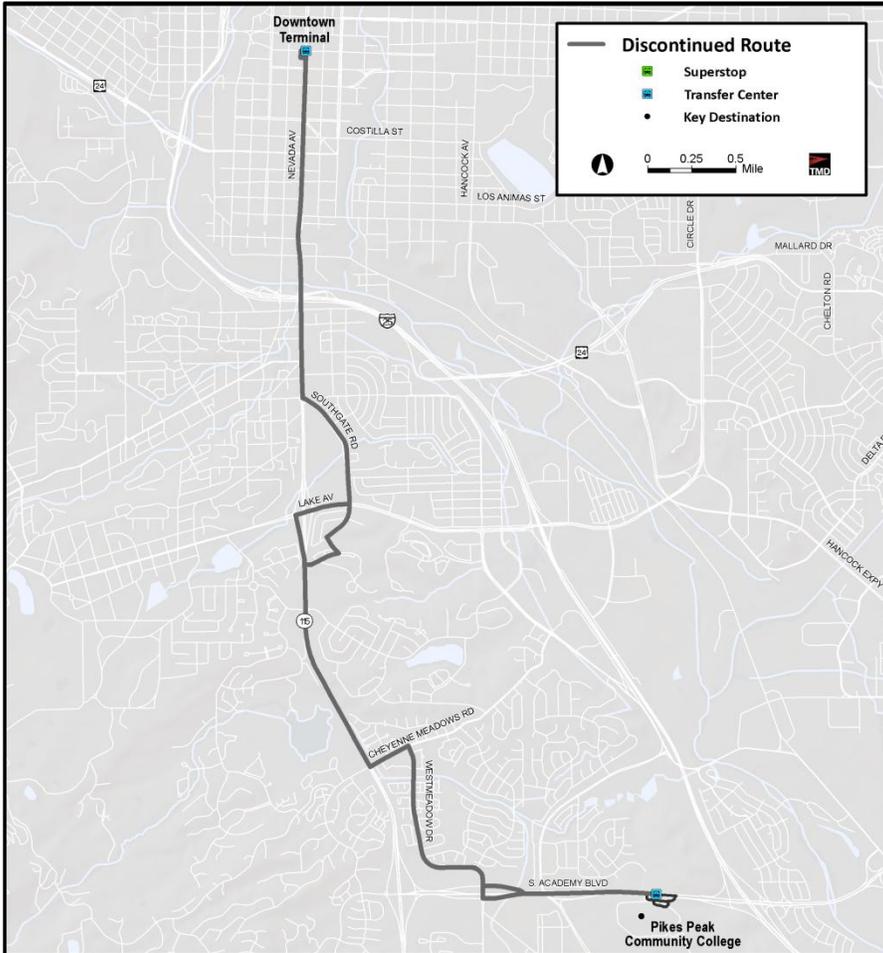
	Frequency	Span of Service	Annual Operating Costs
Peak	15	Weekday 5:45AM - 9:30PM	Revenue Hours: 21,990
Off-Peak	30	Sat/Sun 6:30AM - 6:30PM	Revenue Miles: 284,530
Night	60		Peak Vehicles: 7
Sat/Sun	60		

Phase 3B

No changes from Phase 2.

	Frequency	Span of Service	Annual Operating Costs
Peak	15	Weekday 5:45AM - 9:30PM	Revenue Hours: 21,990
Off-Peak	30	Sat/Sun 6:30AM - 6:30PM	Revenue Miles: 284,530
Night	60		Peak Vehicles: 7
Sat/Sun	60		

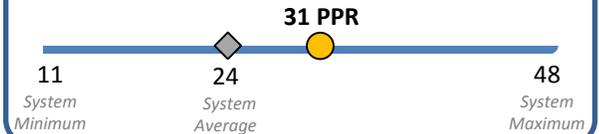
Route 10 Phased Recommendations



Existing Conditions Key Findings

- Another example of opportunities for reinvestment due to duplicative service. Routes 10, 11, 15, and 25 all serve PPCC. Market for transit at PPCC does not warrant four routes serving the destination. Routes 10, 11, and 15 have the exact same terminals, which amplifies the duplicative nature of the service.

Current Productivity



Design Objectives and Network Role

- Service between downtown and PPCC will be consolidated into one route.
- Route 10's resources will be shifted to the new Route 9, the primary service between downtown and PPCC. Route 9 will be more clear to passengers.

Phase 1

Reallocate resources from Route 10 to new Route 9 configuration. Route 10 will no longer operate; market will be served by Route 9.

Frequency

Peak
Off-Peak
Night
Sat/Sun

Span of Service

Weekday
Sat/Sun

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Phase 2

Route no longer in operation.

Frequency

Peak
Off-Peak
Night
Sat/Sun

Span of Service

Weekday
Sat/Sun

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Phase 3A

Route no longer in operation.

Frequency

Peak
Off-Peak
Night
Sat/Sun

Span of Service

Weekday
Sat/Sun

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Phase 3B

Route no longer in operation.

Frequency

Peak
Off-Peak
Night
Sat/Sun

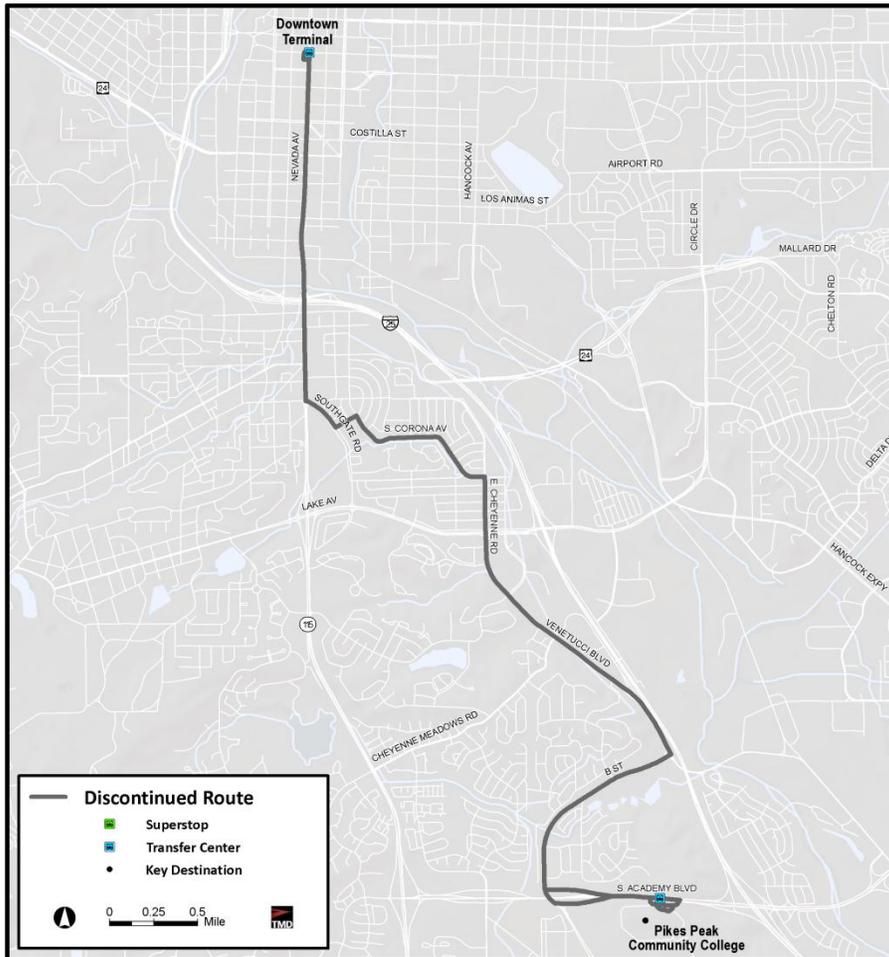
Span of Service

Weekday
Sat/Sun

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

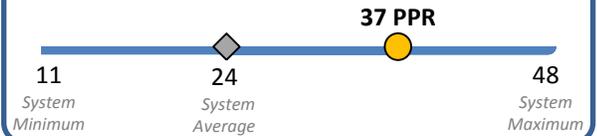
Route 11 Phased Recommendations



Existing Conditions Key Findings

- Route 11 is the most productive route serving PPCC.
- Its strongest segment is between downtown Colorado Springs and the Southgate area.

Current Productivity



Design Objectives and Network Role

- The new Route 9, a hybrid of Route 9 and Route 11's alignment, provides another one seat ride along a north-south corridor.
- Route 9 will travel along Nevada Ave, a corridor that has been identified as a potential focus for future sustainable development.
- New route is projected to be a key spine in the network and will be a part of the high-frequency H-Network.

Phase 1

Reallocated resources from Route 11 to new Route 9 configuration. Route 9 will cover Route 11's exact alignment.

Frequency

Peak
Off-Peak
Night
Sat/Sun

Span of Service

Weekday
Sat/Sun

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Phase 2

No changes from Phase 1.

Frequency

Peak
Off-Peak
Night
Sat/Sun

Span of Service

Weekday
Sat/Sun

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Phase 3A

No changes from Phase 2.

Frequency

Peak
Off-Peak
Night
Sat/Sun

Span of Service

Weekday
Sat/Sun

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Phase 3B

No changes from Phase 2.

Frequency

Peak
Off-Peak
Night
Sat/Sun

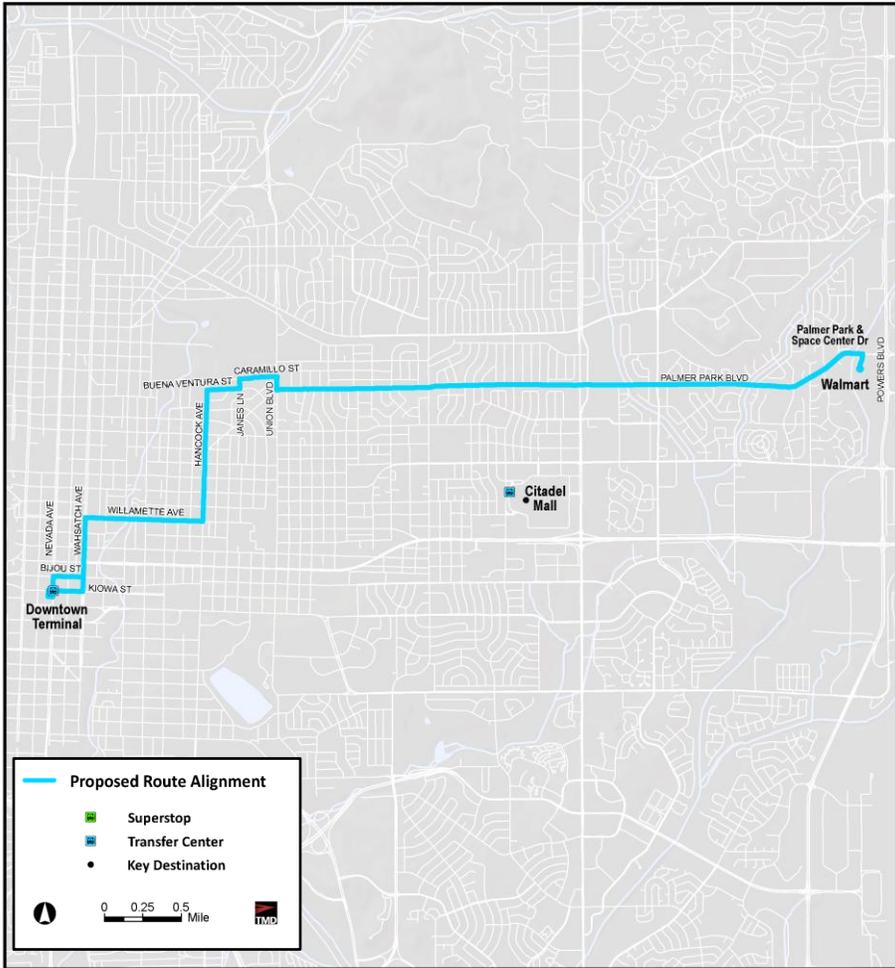
Span of Service

Weekday
Sat/Sun

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Route 12 Phased Recommendations



Existing Conditions Key Findings

- Palmer Park Boulevard route provides service to retail activity centers at Palmer Park & Space Center Dr.
- The market for transit in other areas along the corridor are limited. As a result, Route 12 is below the system average in daily boardings, productivity, and financial effectiveness.

Current Productivity



Design Objectives and Network Role

- Recommendations identify other opportunities for serving retail destinations because of Route 12's underperformance.
- Route 12 is consolidated in Phase 3A, with Routes 26 and 29 replacing its service area. Route 26 will serve Powers Blvd, another corridor with key retail destinations.

Phase 1

Route 12 will no longer run on Saturdays.

	Frequency	Span of Service	Annual Operating Costs
Peak	60	Weekday 5:45AM - 6:45PM	Revenue Hours: 3,320
Off-Peak	60	Sat/Sun -	Revenue Miles: 45,580
Night			Peak Vehicles: 1
Sat/Sun			

Phase 2

No changes from Phase 1.

	Frequency	Span of Service	Annual Operating Costs
Peak	60	Weekday 5:45AM - 6:45PM	Revenue Hours: 3,320
Off-Peak	60	Sat/Sun -	Revenue Miles: 45,580
Night			Peak Vehicles: 1
Sat/Sun			

Phase 3A

Route 12 will no longer operate and its resources will be reallocated to other routes. Its current market area will be served by Routes 26 and 29.

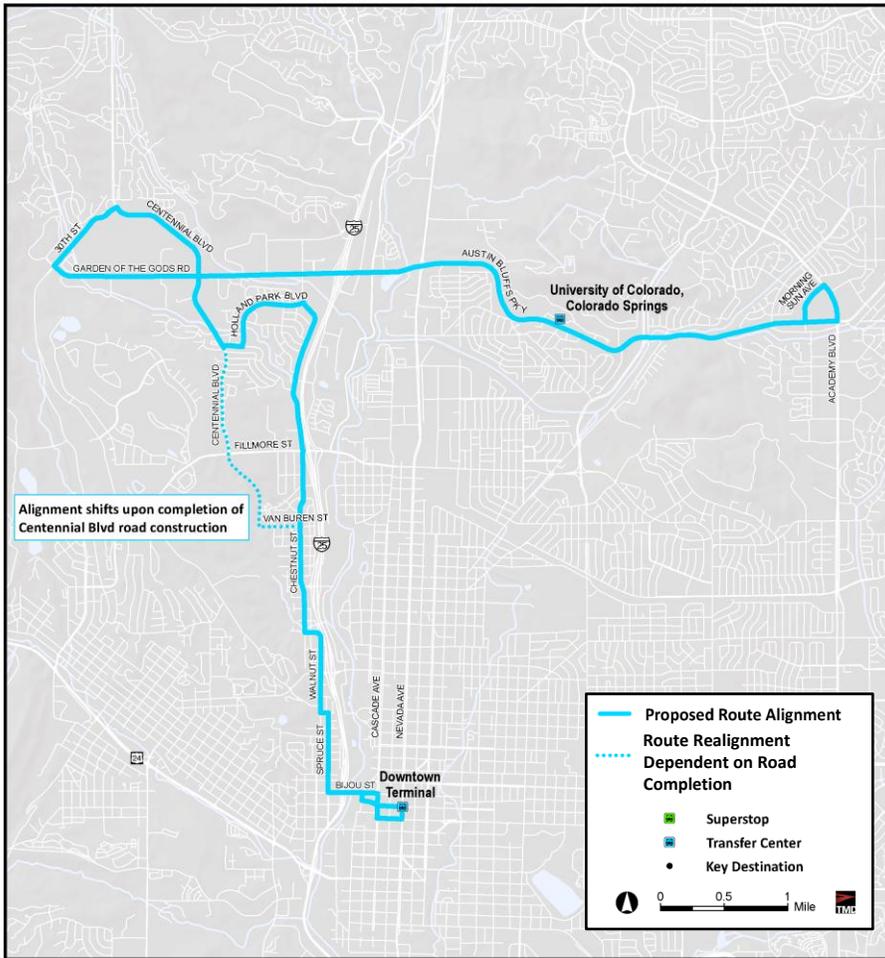
	Frequency	Span of Service	Annual Operating Costs
Peak		Weekday	Revenue Hours:
Off-Peak		Sat/Sun -	Revenue Miles:
Night			Peak Vehicles:
Sat/Sun			

Phase 3B

No changes from Phase 2.

	Frequency	Span of Service	Annual Operating Costs
Peak	60	Weekday 5:45AM - 6:45PM	Revenue Hours: 3,320
Off-Peak	60	Sat/Sun -	Revenue Miles: 45,580
Night			Peak Vehicles: 1
Sat/Sun			

Route 14 Phased Recommendations



Existing Conditions Key Findings

- Provides passengers with a connection to social services located on Garden of the Gods.
- Productivity suffers because of its current circuitous alignment.
- Route also underperforms east of UCCS.

Current Productivity



Design Objectives and Network Role

- Route 14 serves a unique market. It will be realigned to connect to the new VA building on Centennial Ave when it opens.
- Route 14 is the least productive service that operates on Saturday. As of Phase 1, it will no longer run on weekends.
- Staff should continue to monitor the route's performance east of UCCS to see if the segment is still necessary in future phases.

Phase 1

Route 14 will no longer operate on Saturdays.

	Frequency	Span of Service	Annual Operating Costs
Peak	60	Weekday 5:45AM - 7:00PM	Revenue Hours: 6,460
Off-Peak	60	Sat/Sun -	Revenue Miles: 89,510
Night			Peak Vehicles: 2
Sat/Sun			Interlined with Route 28

Phase 2

No changes from Phase 1.

	Frequency	Span of Service	Annual Operating Costs
Peak	60	Weekday 5:45AM - 7:00PM	Revenue Hours: 6,460
Off-Peak	60	Sat/Sun -	Revenue Miles: 89,510
Night			Peak Vehicles: 2
Sat/Sun			Interlined with Route 28

Phase 3A

No changes from Phase 2.

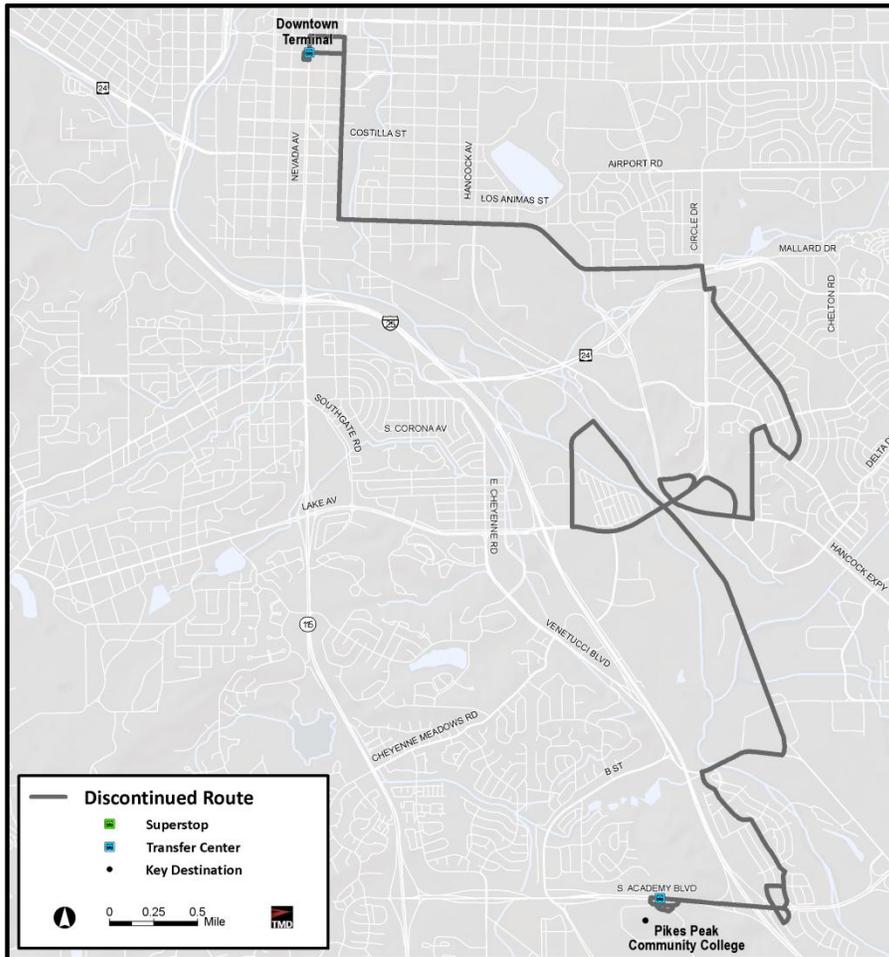
	Frequency	Span of Service	Annual Operating Costs
Peak	60	Weekday 5:45AM - 7:00PM	Revenue Hours: 6,460
Off-Peak	60	Sat/Sun -	Revenue Miles: 89,510
Night			Peak Vehicles: 2
Sat/Sun			Interlined with Route 28

Phase 3B

No changes from Phase 2.

	Frequency	Span of Service	Annual Operating Costs
Peak	60	Weekday 5:45AM - 7:00PM	Revenue Hours: 6,460
Off-Peak	60	Sat/Sun -	Revenue Miles: 89,510
Night			Peak Vehicles: 2
Sat/Sun			Interlined with Route 28

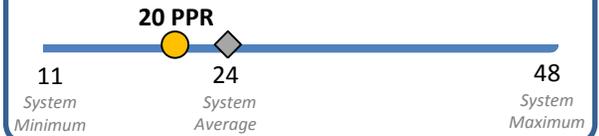
Route 15 Phased Recommendations



Existing Conditions Key Findings

- Connects passengers with service buildings, but its performance does not support fixed route service. Its current alignment is circuitous and duplicative, with PPCC being served by three other routes.

Current Productivity



Design Objectives and Network Role

- Service routes will be implemented in order to provide passengers with a connection to key services currently being served by Route 15. Service routes are explained in more detail in the MMT COA, substituting fixed routes with service routes provides MMT with a more cost effective solution that still allows the agency to provide service to the limited market previously served by Route 15.

Phase 1

No changes from current design. Provide advance notice to current customers of Phase 2 changes.

Frequency

Peak	60
Off-Peak	60
Night	
Sat/Sun	

Span of Service

Weekday	6:00AM - 7:00PM
Sat/Sun	-

Annual Operating Costs

Revenue Hours:	4,590
Revenue Miles:	79,050
Peak Vehicles:	1
Interlined with Route 16	

Phase 2

Replace with service route. The service route will operate 4 roundtrips during the peak, giving passengers access to key destinations along Route 15's alignment.

Frequency

4 Peak Round Trips

Span of Service

Weekday	Peak
Sat/Sun	-

Annual Operating Costs

Revenue Hours:	2,040
Revenue Miles:	25,250
Peak Vehicles:	

Phase 3A

No changes from Phase 2.

Frequency

4 Peak Round Trips

Span of Service

Weekday	Peak
Sat/Sun	-

Annual Operating Costs

Revenue Hours:	2,040
Revenue Miles:	25,250
Peak Vehicles:	

Phase 3B

No changes from Phase 2.

Frequency

4 Peak Round Trips

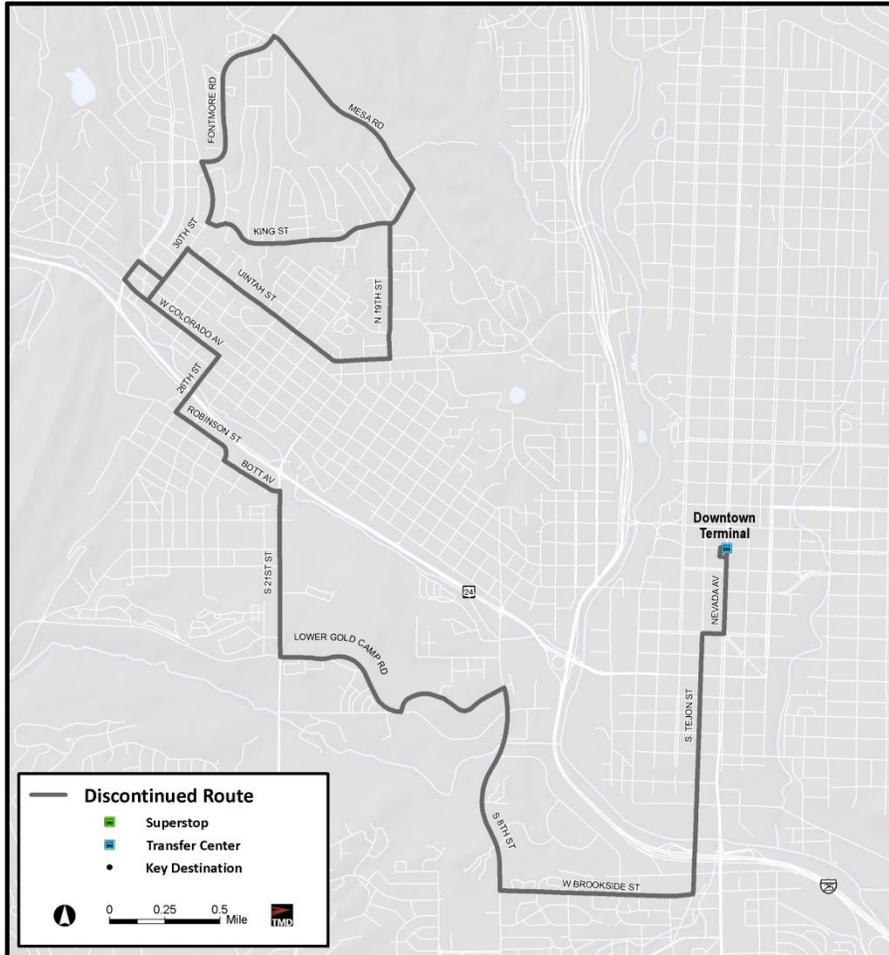
Span of Service

Weekday	Peak
Sat/Sun	-

Annual Operating Costs

Revenue Hours:	2,040
Revenue Miles:	25,250
Peak Vehicles:	

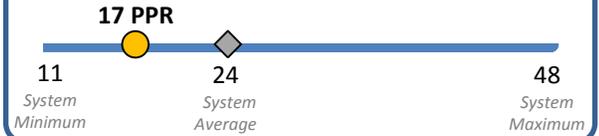
Route 16 Phased Recommendations



Existing Conditions Key Findings

- Unproductive route serving the region east of Colorado Springs.
- It is unclear what the market for Route 16 is, and performance indicators reflect this uncertainty.

Current Productivity



Design Objectives and Network Role

- Similar to Route 15, the market for Route 16 is limited and does not support a full fixed-route service.
- It serves a unique market, but Routes 3 and 4 can accommodate a majority of existing Route 16 riders.
- As a supplement, MMT can run a few peak service trips during the weekday to serve the areas outside of the proposed walkshed. (See Route 15).

Phase 1

Sunday service will be established.

Frequency

Peak	60
Off-Peak	60
Night	
Sat/Sun	

Span of Service

Weekday	6:45AM - 6:45PM
Sat/Sun	-

Annual Operating Costs

Revenue Hours:	5,100
Revenue Miles:	67,510
Peak Vehicles:	2
Interlined with Route 15	

Phase 2

Replace with service route. The service route will operate 4 roundtrips during the peak, giving passengers access to key destinations along Route 16's alignment.

Frequency

4 Peak Round Trips

Span of Service

Weekday	Peak
Sat/Sun	-

Annual Operating Costs

Revenue Hours:	2,040
Revenue Miles:	21,680
Peak Vehicles:	

Phase 3A

No changes from Phase 2.

Frequency

4 Peak Round Trips

Span of Service

Weekday	Peak
Sat/Sun	-

Annual Operating Costs

Revenue Hours:	2,040
Revenue Miles:	21,680
Peak Vehicles:	

Phase 3B

No changes from Phase 2.

Frequency

4 Peak Round Trips

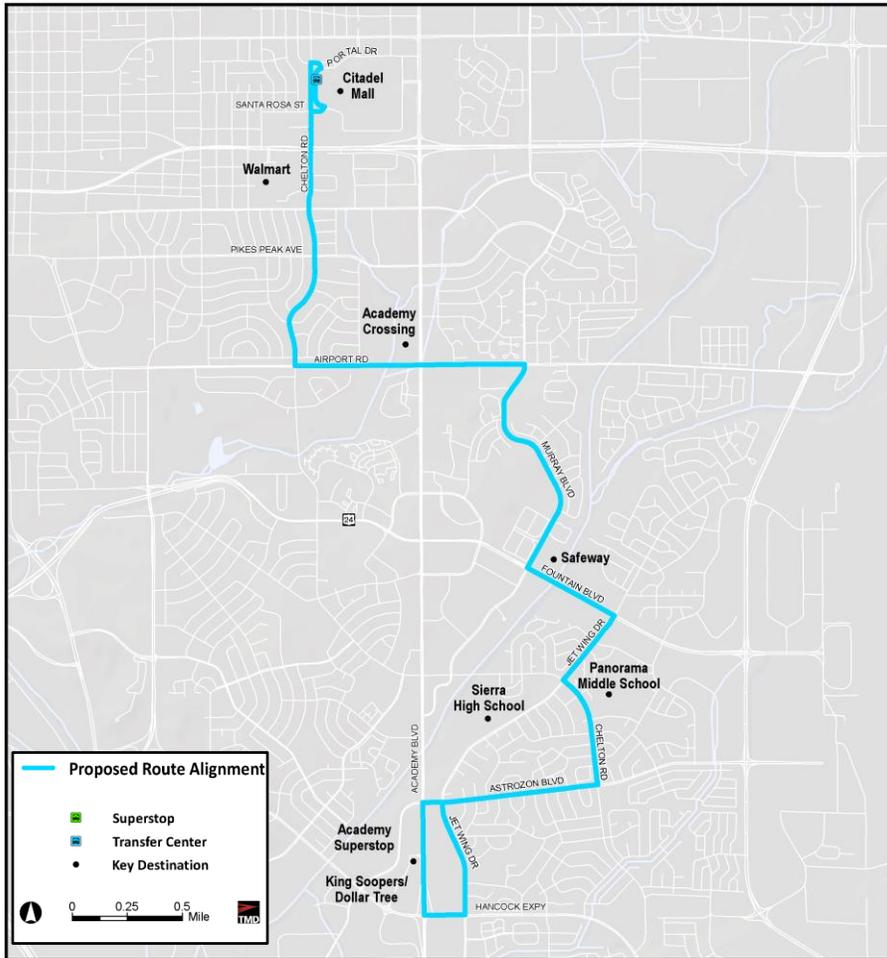
Span of Service

Weekday	Peak
Sat/Sun	-

Annual Operating Costs

Revenue Hours:	2,040
Revenue Miles:	21,680
Peak Vehicles:	

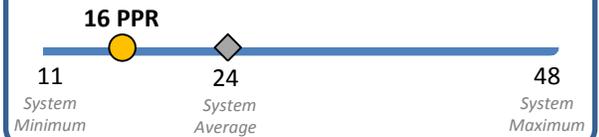
Route 22 Phased Recommendations



Existing Conditions Key Findings

- Low-performing route with a duplicative alignment. A majority of its service area is already covered by Route 25. The limited portion of the route that is outside of Route 25's walkshed generates little ridership.

Current Productivity



Design Objectives and Network Role

- The fact that a majority of the route is duplicative and its unique segments generate little ridership make this route a candidate for resource reallocation.
- The route remains through Phases 1 and 2, but will be discontinued in Phase 3A. It will not require a service route because of its minimal ridership and proximity to Route 25. Resources from this route will be reallocated towards productive services.

Phase 1

No changes from current design.

Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	6:00AM - 7:00PM	Revenue Hours:	3,320
Off-Peak	60	Sat/Sun	-	Revenue Miles:	42,100
Night				Peak Vehicles:	1
Sat/Sun					

Phase 2

No changes from Phase 2.

Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	6:00AM - 7:00PM	Revenue Hours:	3,320
Off-Peak	60	Sat/Sun	-	Revenue Miles:	42,100
Night				Peak Vehicles:	1
Sat/Sun					

Phase 3A

Route 22 is discontinued and resources reallocated during Phase 3A.

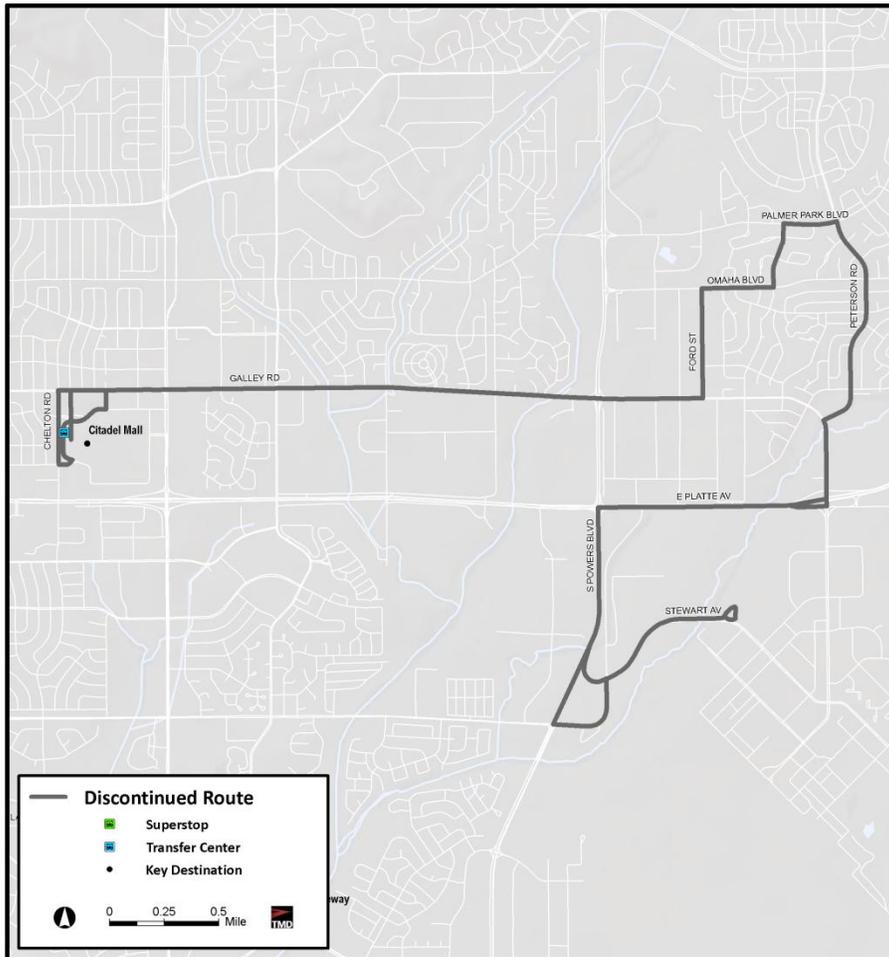
Frequency		Span of Service		Annual Operating Costs	
Peak		Weekday		Revenue Hours:	
Off-Peak		Sat/Sun	-	Revenue Miles:	
Night				Peak Vehicles:	
Sat/Sun					

Phase 3B

No changes from Phase 2.

Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	6:00AM - 7:00PM	Revenue Hours:	3,320
Off-Peak	60	Sat/Sun	-	Revenue Miles:	42,100
Night				Peak Vehicles:	1
Sat/Sun					

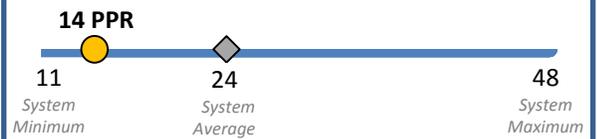
Route 24 Phased Recommendations



Existing Conditions Key Findings

- Route serves the Peterson Air Force Base and generates minimal ridership.

Current Productivity



Design Objectives and Network Role

- Route 24 will be consolidated in Phase 2 and replaced with a service route. A service route maintains a connection to the Air Force Base.
- The service route will operate 4 roundtrips during the peak, serving the passengers who previously used the route.
- This is the third and final service route that is proposed in the recommendations. These service alternatives give MMT the additional flexibility to free up resources for more productive routes.

Phase 1

No changes.

Frequency

Peak	60
Off-Peak	60
Night	
Sat/Sun	

Span of Service

Weekday	6:00AM - 7:00PM
Sat/Sun	-

Annual Operating Costs

Revenue Hours:	3,320
Revenue Miles:	60,030
Peak Vehicles:	1

Phase 2

Replace with service route. The service route will operate 4 roundtrips during the peak, giving passengers access to key destinations along Route 24's alignment.

Frequency

4 Peak Round Trips

Span of Service

Weekday	Peak
Sat/Sun	-

Annual Operating Costs

Revenue Hours:	1,020
Revenue Miles:	18,360
Peak Vehicles:	

Phase 3A

No changes from Phase 2.

Frequency

4 Peak Round Trips

Span of Service

Weekday	Peak
Sat/Sun	-

Annual Operating Costs

Revenue Hours:	1,020
Revenue Miles:	18,360
Peak Vehicles:	

Phase 3B

No changes from Phase 2.

Frequency

4 Peak Round Trips

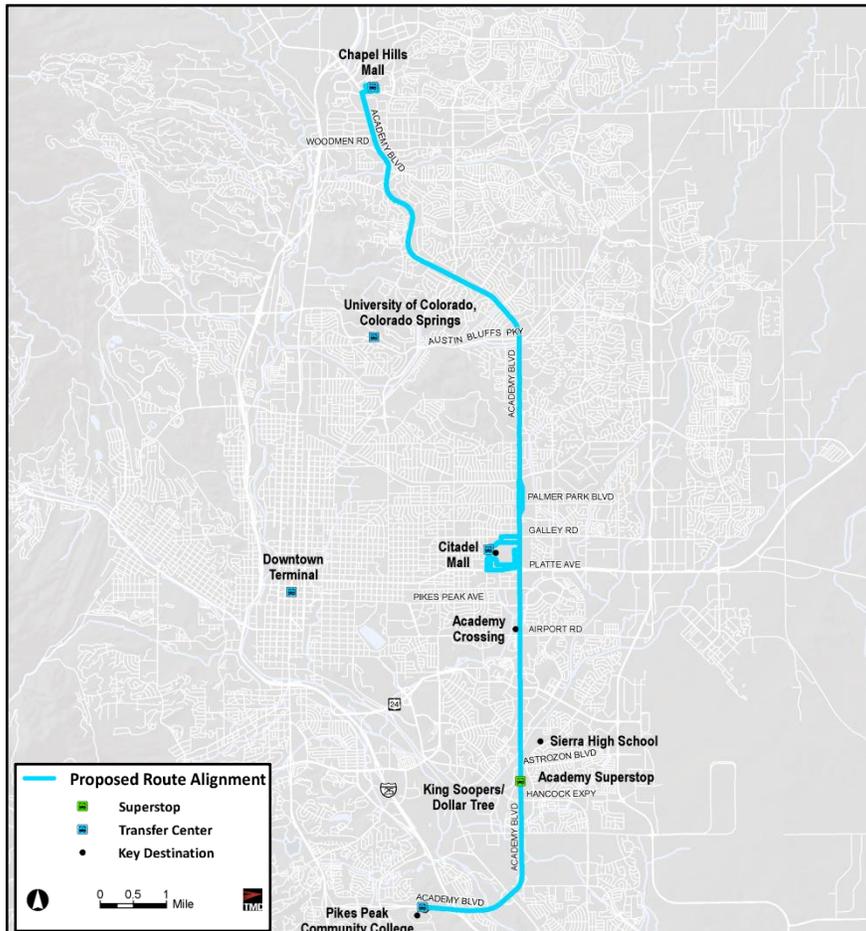
Span of Service

Weekday	Peak
Sat/Sun	-

Annual Operating Costs

Revenue Hours:	1,020
Revenue Miles:	18,360
Peak Vehicles:	

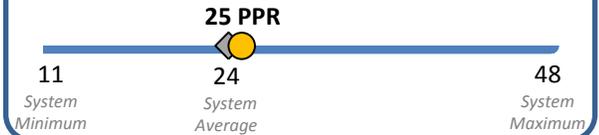
Route 25 Phased Recommendations



Existing Conditions Key Findings

- Key corridor in the current network with the highest boardings and average productivity. Productivity is attributed to its higher levels of service and longer alignment. Segment north of Austin Bluffs Pkwy was identified as less productive.
- To increase productivity, Route 25 will need to generate additional ridership or cycle more efficiently.

Current Productivity



Design Objectives and Network Role

- Route 25 will become a part of the high-frequency H-network.
- Productivity will be improved through the introduction of a short line between Hancock Plaza and Chapel Hills Mall. This segment will run more frequently.
- Route will also run on Sundays.

Phase 1

No changes from current design.

Frequency		Span of Service		Annual Operating Costs	
Peak	30	Weekday	5:00AM - 10:00PM	Revenue Hours:	18,670
Off-Peak	30	Sat/Sun	6:00AM - 7:00PM	Revenue Miles:	313,840
Night	60			Peak Vehicles:	4
Sat/Sun	60				

Phase 2

No changes from Phase 1.

Frequency		Span of Service		Annual Operating Costs	
Peak	30	Weekday	5:00AM - 10:00PM	Revenue Hours:	18,670
Off-Peak	30	Sat/Sun	6:00AM - 7:00PM	Revenue Miles:	313,840
Night	60			Peak Vehicles:	4
Sat/Sun	60				

Phase 3A

Introduce a short-line operating between Hancock Plaza and Chapel Hills Mall. When combined with the long-line, passengers will experience 15 minute service along the short-line.

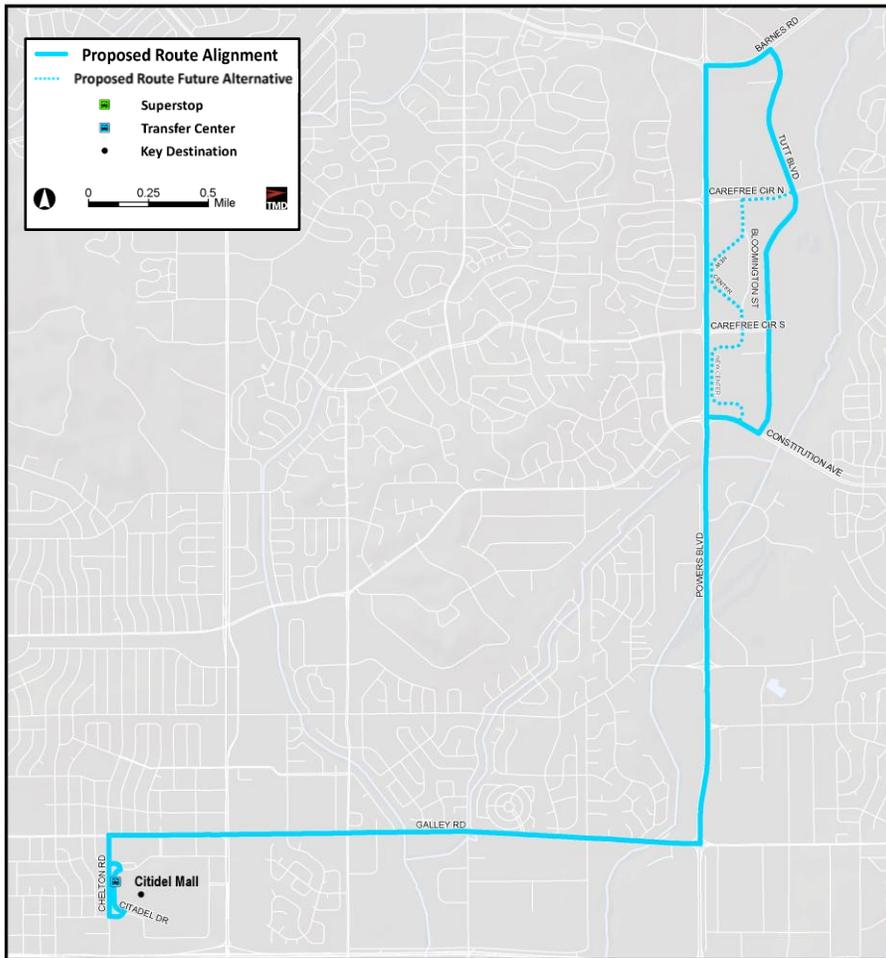
Frequency		Span of Service		Annual Operating Costs	
Peak	15/60	Weekday	5:00AM - 10:00PM	Revenue Hours:	24,790
Off-Peak	30	Sat/Sun	6:00AM - 7:00PM	Revenue Miles:	376,240
Night	60			Peak Vehicles:	8
Sat/Sun	60				

Phase 3B

See Phase 3A.

Frequency		Span of Service		Annual Operating Costs	
Peak	15/60	Weekday	5:00AM - 10:00PM	Revenue Hours:	24,790
Off-Peak	30	Sat/Sun	6:00AM - 7:00PM	Revenue Miles:	376,240
Night	60			Peak Vehicles:	8
Sat/Sun	60				

Route 26 Phased Recommendations



New Service

- New route proposed for introduction during Phase 1.

Design Objectives and Network Role

- Route 26 will be a JARC-funded route providing connection from the Citadel transfer center to the Powers Blvd. retail centers.
- A majority of its alignment operates on Powers Blvd, a corridor where no boarding or alighting will take place due to restrictions related to State highways.
- Passengers would be better served if Route 26 dropped them off closer to the mall as opposed to Tutt Blvd on the backside of the retail complex. In order to have stops be placed at the mall, MMT will need to coordinate with mall officials.

Phase 1

New Route 26 will be introduced during Phase 1. Route will run 7 days a week at a 60 minute frequency.

Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	5:45AM - 6:45PM	Revenue Hours:	4,750
Off-Peak	60	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	60,260
Night				Peak Vehicles:	1
Sat/Sun	60				

Phase 2

No changes from Phase 1.

Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	5:45AM - 6:45PM	Revenue Hours:	4,750
Off-Peak	60	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	60,260
Night				Peak Vehicles:	1
Sat/Sun	60				

Phase 3A

No changes from Phase 2.

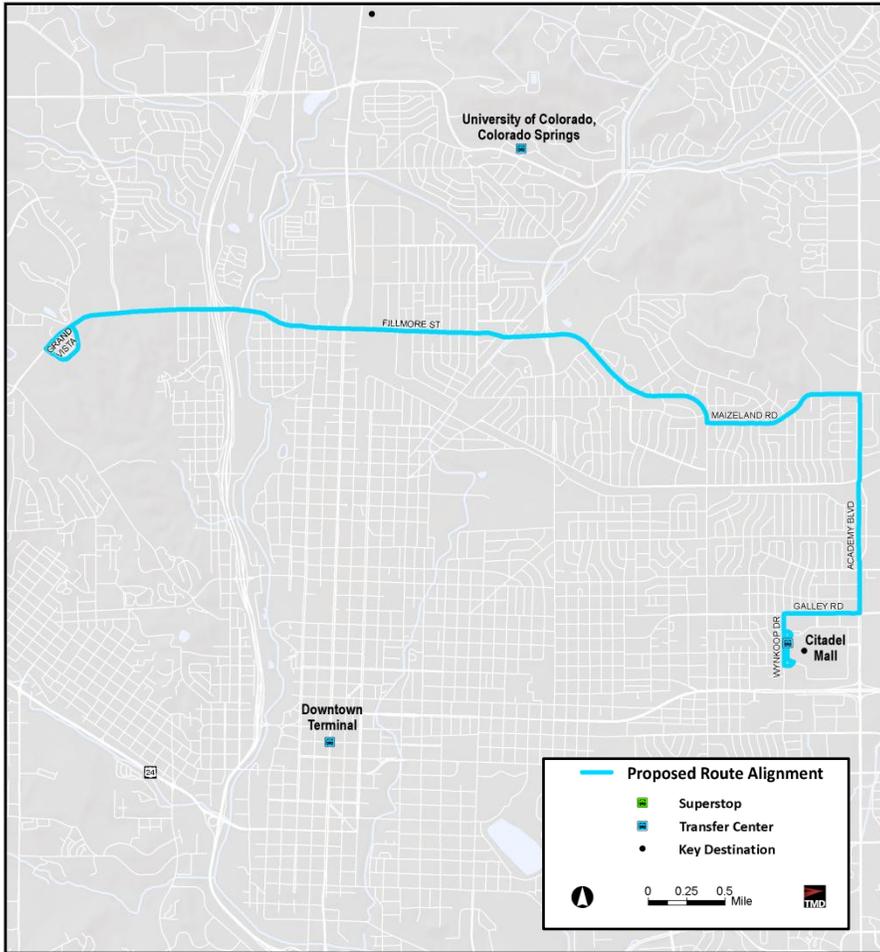
Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	5:45AM - 6:45PM	Revenue Hours:	4,070
Off-Peak	60	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	58,640
Night				Peak Vehicles:	1
Sat/Sun	60			Interlined with Route 27	

Phase 3B

No changes from Phase 2.

Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	5:45AM - 6:45PM	Revenue Hours:	4,750
Off-Peak	60	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	60,260
Night				Peak Vehicles:	1
Sat/Sun	60				

Route 27 Phased Recommendations



New Service

- New route proposed for introduction during Phase 3A

Design Objectives and Network Role

- Route provides a connection to the new VA building that will open on Fillmore St and Centennial Blvd.
- The route will provide two access points into the high frequency H-Network via Routes 9 and 25.
- It will serve as a more direct cross-town compared to consolidated Routes 6 and 8.
- If the market for transit continues to grow in the MMT service area, Route 27 will support the continued transition into a grid-based network.

Phase 1

Route not introduced.

Frequency

Peak
Off-Peak
Night
Sat/Sun

Span of Service

Weekday
Sat/Sun -

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Phase 2

Route not introduced.

Frequency

Peak
Off-Peak
Night
Sat/Sun

Span of Service

Weekday
Sat/Sun -

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Phase 3A

Route 27 established during Phase 3A.

Frequency

Peak **60**
Off-Peak **60**
Night
Sat/Sun

Span of Service

Weekday 5:45AM - 6:45PM
Sat/Sun -

Annual Operating Costs

Revenue Hours: **3,740**
Revenue Miles: **52,910**
Peak Vehicles: **1**
Interlined with Route 26

Phase 3B

Route not introduced.

Frequency

Peak
Off-Peak
Night
Sat/Sun

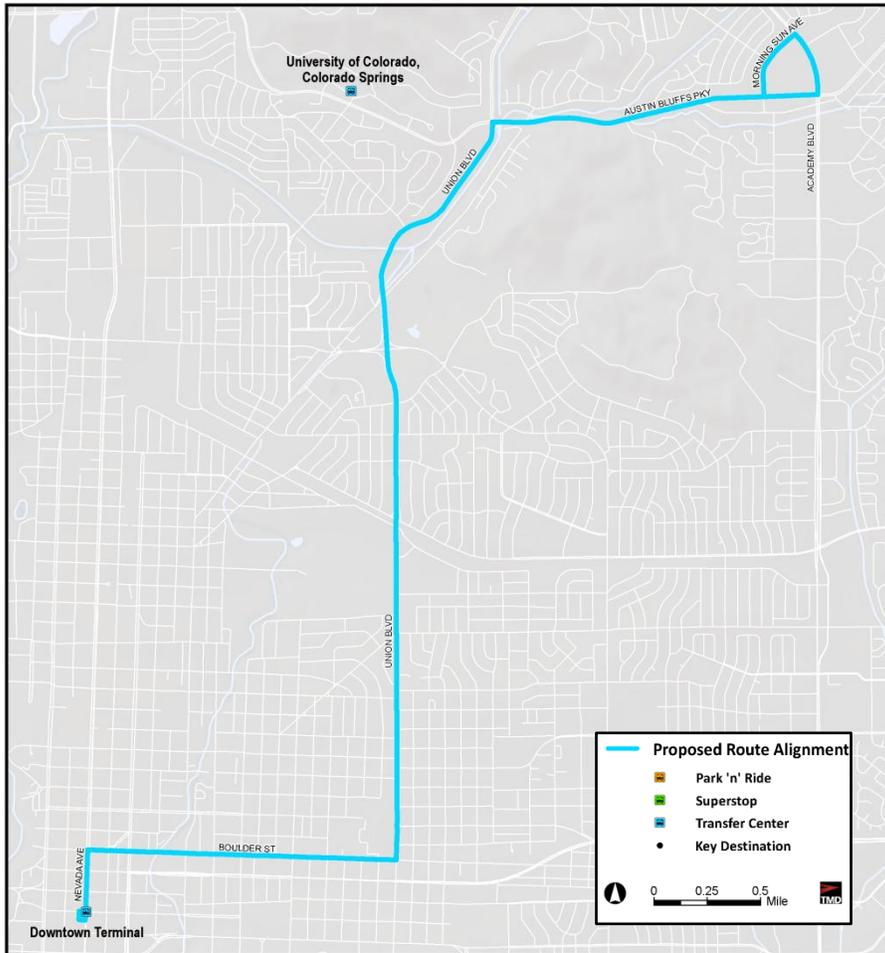
Span of Service

Weekday
Sat/Sun -

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Route 28 Phased Recommendations



New Service

- New route proposed for introduction during Phase 1

Design Objectives and Network Role

- Route 28 travels along Union Blvd and offers passengers with a unique connection between downtown Colorado Springs and the key destinations at Austin Bluffs Pkwy and Academy Blvd. This was a high demand travel pattern that was previously unmet, requiring passengers to take more than one bus.
- In addition to offering a new connection, Union becomes the third north-south corridor in the system. Without Route 28, a 3-mile gap would exist between the two primary north-south routes.
- Route 28 also helps position MMT to become more of a grid-based system.

Phase 1

Establish Route 28 with operations 7 days a week at 60 minute frequency.

Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	5:45AM - 7:00PM	Revenue Hours:	4,660
Off-Peak	60	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	68,340
Night				Peak Vehicles:	1
Sat/Sun	60			Interlined with Route 14	

Phase 2

No changes from Phase 1.

Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	5:45AM - 7:00PM	Revenue Hours:	4,660
Off-Peak	60	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	68,340
Night				Peak Vehicles:	1
Sat/Sun	60			Interlined with Route 14	

Phase 3A

No changes from Phase 2.

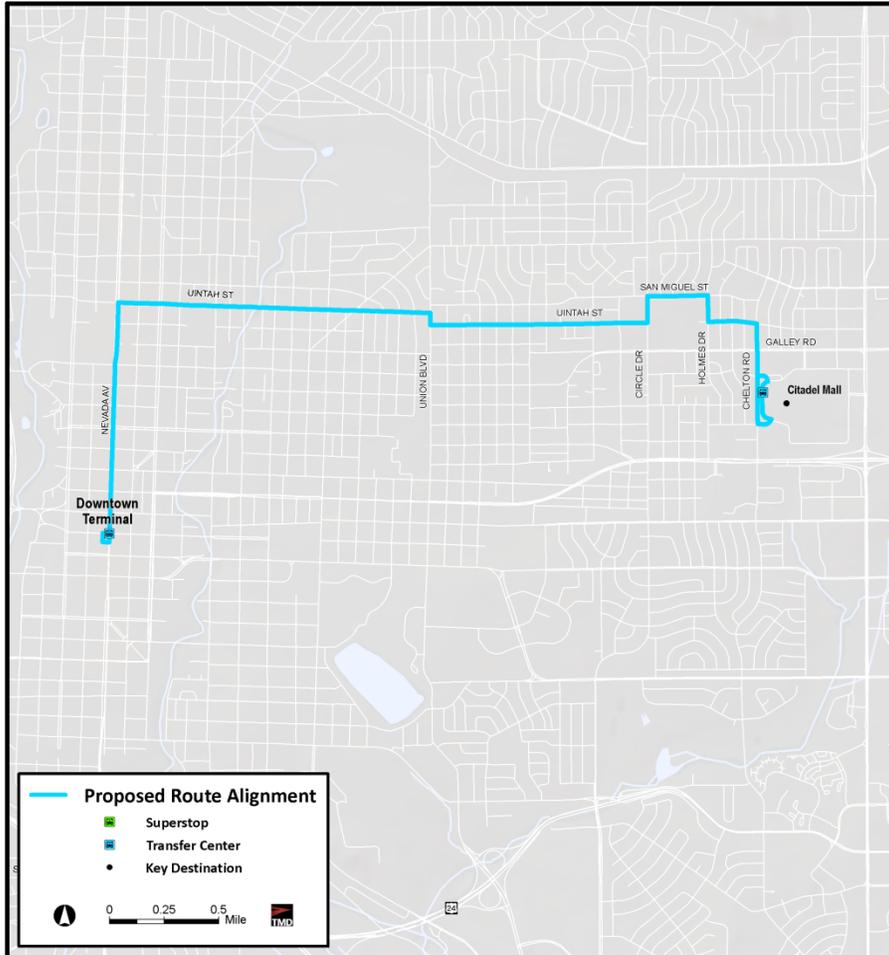
Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	5:45AM - 7:00PM	Revenue Hours:	4,660
Off-Peak	60	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	68,340
Night				Peak Vehicles:	1
Sat/Sun	60			Interlined with Route 14	

Phase 3B

No changes from Phase 2.

Frequency		Span of Service		Annual Operating Costs	
Peak	60	Weekday	5:45AM - 7:00PM	Revenue Hours:	4,660
Off-Peak	60	Sat/Sun	6:30AM - 6:30PM	Revenue Miles:	68,340
Night				Peak Vehicles:	1
Sat/Sun	60			Interlined with Route 14	

Route 29 Phased Recommendations



New Service

- New route proposed for introduction during Phase 3A

Design Objectives and Network Role

- Route 29 travels along Uintah St to connect the downtown terminal and the Citadel.
- Resources from Routes 6, 8, and 12 are reallocated to fund Routes 27 and 29. The Phase 3A network consolidates many of the east-west routes north of Route 5, but provides a similar level of coverage by distributing the new routes more efficiently. Phase 3A saves resources by using fewer routes to serve the same area.

Phase 1

Route not introduced.

Frequency

Peak
Off-Peak
Night
Sat/Sun

Span of Service

Weekday
Sat/Sun -

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Phase 2

Route not introduced.

Frequency

Peak
Off-Peak
Night
Sat/Sun

Span of Service

Weekday
Sat/Sun -

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Phase 3A

Establish route, including Sunday Service.

Frequency

Peak **45**
Off-Peak **45**
Night
Sat/Sun

Span of Service

Weekday 5:45AM - 6:45PM
Sat/Sun -

Annual Operating Costs

Revenue Hours: **3,570**
Revenue Miles: **43,150**
Peak Vehicles: **1**

Phase 3B

Route not introduced.

Frequency

Peak
Off-Peak
Night
Sat/Sun

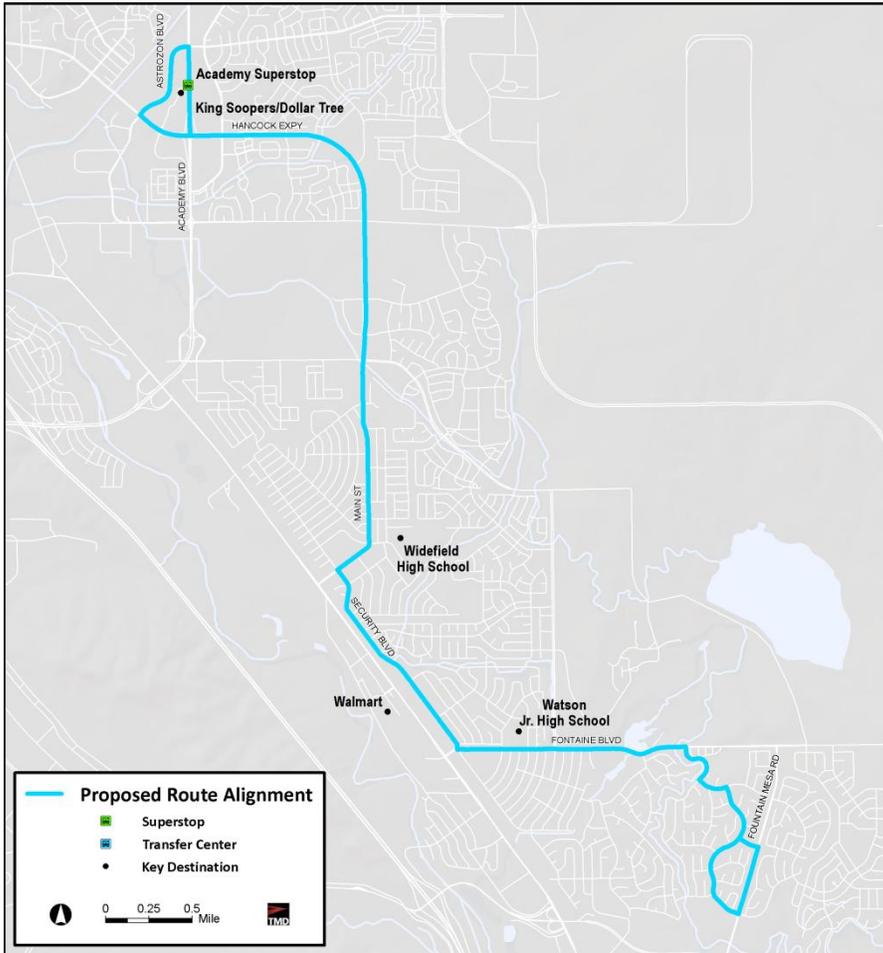
Span of Service

Weekday
Sat/Sun -

Annual Operating Costs

Revenue Hours:
Revenue Miles:
Peak Vehicles:

Route 32 Phased Recommendations



Existing Conditions Key Findings

- Provides basic transit access to low to moderate density residential communities.
- Least performance in the system with regards to daily boardings, productivity, and financial effectiveness.
- Route 32 was recently restructured with the purpose of providing critical coverage in a market area where transit does not have the potential for high productivity.

Current Productivity

11 PPR



Design Objectives and Network Role

- Due to recent changes in Route 32's structure, MMT staff should continue to monitor the route. If it continues to underperform, staff can make necessary changes in future phases.

Phase 1

No changes from current design.

Frequency	Span of Service	Annual Operating Costs
Peak 60	Weekday 6:00AM - 7:00PM	Revenue Hours: 3,320
Off-Peak 60	Sat/Sun -	Revenue Miles: 54,100
Night		Peak Vehicles: 1
Sat/Sun		

Phase 2

No changes from Phase 1.

Frequency	Span of Service	Annual Operating Costs
Peak 60	Weekday 6:00AM - 7:00PM	Revenue Hours: 3,320
Off-Peak 60	Sat/Sun -	Revenue Miles: 54,100
Night		Peak Vehicles: 1
Sat/Sun		

Phase 3A

No changes from Phase 2.

Frequency	Span of Service	Annual Operating Costs
Peak 60	Weekday 6:00AM - 7:00PM	Revenue Hours: 3,320
Off-Peak 60	Sat/Sun -	Revenue Miles: 54,100
Night		Peak Vehicles: 1
Sat/Sun		

Phase 3B

No changes from Phase 2.

Frequency	Span of Service	Annual Operating Costs
Peak 60	Weekday 6:00AM - 7:00PM	Revenue Hours: 3,320
Off-Peak 60	Sat/Sun -	Revenue Miles: 54,100
Night		Peak Vehicles: 1
Sat/Sun		

Customer Impacts and Benefits

A majority of MMT customers will experience a positive impact from the recommendations including reduced travel times, more frequent service options, and access to new service areas. These improvements will also generate additional use by existing customers and prompt new customers to begin using the system. A smaller number of customers currently using very low-volume routes recommended for discontinuation will experience a loss of service. In instances where existing customers experience discontinuance of their service the plan offers targeted service substitutions to mitigate the impact. The following section details the net benefits and impacts to customers. The impacts and benefits to customers are presented in summary tables by phases while the detailed route-by-route analysis can be found in the appendix.

Customer Impacts

A customer impact was considered to occur when an existing service was restructured or discontinued causing an existing customer to be further than a quarter-mile from a fixed route. Passengers are impacted by route restructuring the most in Phase 3A, when 11 existing routes either change alignments or are discontinued. Many of these changes are offset with increases in service in the form of increased frequency or new fixed route services. Overall, the 764 boardings impacted in Phase 3A represent about 8 percent of the daily weekday ridership. However, this calculation made a conservative assumption that all of the passengers who patronize Routes 15, 16, and 24 would not use the alternative service provided. Passengers will still be able to access the MMT network when the routes convert into service routes.

The weekend consolidations were the same across all four phases. Routes 12 and 14 will no longer operate on Saturdays due to low performance, carrying 16 and 10 passengers per revenue hour, respectively. The number of Saturday riders who utilize these routes total to 435 passengers.

Weekday Ridership Impacts	
Phase	Daily Boardings No Longer Served
1	169
2	524
3A	764
3B	524

Figure 21: Weekday Ridership Impacts

Weekend Impacts – All Phases	
Impacted Route	Saturday Boardings
12	237
14	198
Impacted Totals	435

Figure 22: Weekday Impacts- All Phases

Customer Benefits

The proposed system recommendations improve the transit experience for both existing and potential customers by adding frequency to current routes, lengthening service spans, and introducing new services. Passengers accrue benefits in the form of travel time savings and increased mobility throughout the MMT service.

Existing Ridership

Existing riders can immediately benefit from increased frequency. On the three corridors proposed for increased service levels, passengers will save an average of 7.5 minutes per one-way trip from decreased waiting times when frequencies increase from 30 to 15 minutes. The savings calculation assumes random arrivals. Passengers who time their arrival to coincide with system schedules will save less time but they will still gain a benefit from the increased service levels and the improved flexibility in trip making. The magnitude of time savings increases on higher performing routes, affecting a greater number of passengers.

New Ridership

New ridership will develop as the improved passenger experience will attract additional customers. Gains in ridership resulting from increases in frequency were calculated by multiplying the each route's additional revenue hours by a conservative anticipated rate of productivity (passengers per revenue hour). The ridership calculations assume that initially operating additional service hours will not achieve the existing level of productivity, rather, ridership will build over time.

Each phase aims to reallocate revenue hours from services with low productivity to higher-performing routes, which raises the system's average productivity. The MMT network is projected to gain over 400,000 new boardings when the high-frequency H-Network becomes fully implemented in Phases 3A or 3B, which represents about 16 percent of the current annual weekday ridership.

The gains from new services are projected to be greater. Establishing an all-day network through Sunday service and implementing new routes with more efficient designs is expected to generate between 300,000 and 500,000 annual boardings, depending on the phase. Boardings will not all represent new passengers as some of the generated ridership will be the result of passengers shifting from consolidated services. Some of the services are designed to take over markets previously served by other routes but do so in a more effective manner.

Projected Ridership from Increases in Service Levels		
Phase	Frequency Change	New Boardings
2	Frequency for Routes 5 and 9 increase from 30 to 15 minutes	183,600
3A	Frequency for Routes 5, 9, 25 increase from 30 to 15 minutes	403,920
3B	Frequency for Routes 5, 9, 25 increase from 30 to 15 minutes	403,920

Figure 23: Projected Ridership from Increases in Service Levels

Projected Ridership from New Services		
Phase	Service Additions	New Boardings
1	Weekday: 26 and 28 Weekend: 1, 3, 5, 7, 9, 11, 26, 28	335,380
2	Weekday: 26 and 28 Weekend: 1, 3, 5, 7, 9, 11, 26, 28	335,380
3A	Weekday: 26, 27, 28, and 29 Weekend: 1, 3, 5, 7, 9, 11, 26, 28	502,150
3B	Weekday: 26 and 28 Weekend: 1, 3, 5, 7, 9, 11, 26, 28	335,380

Figure 24: Projected Ridership from New Services

System Projections

The following table shows the projected system wide ridership by phase. The ridership presented is a summation of estimated baseline ridership, ridership generated from improved frequencies, and ridership from new services. Each phase is anticipated to produce more ridership in part because a greater pool of projected funding allows for more service to be operated.

In addition to increasing ridership, the objective of each subsequent phase is to prepare the network for growth and financial sustainability. Emphasis is placed on system productivity and making recommendations that improve it. Using conservative productivity estimates for new routes and higher projections of revenue hours for the three service routes, the path from Phases 1 to 3A still represents an overall increase in system productivity compared to the current system.

Ridership Projections					
Phase	Revenue Hours	Ridership			
		Base Ridership	Riders from Improved Frequency	Riders from New Service	Total
1	119,460	2,569,950	-	335,380	2,905,330
2	119,200	2,374,040	183,600	335,380	2,893,020
3A	118,680	2,036,800	403,920	502,150	2,942,870
3B	125,320	2,297,540	403,920	335,380	3,036,840

Figure 25: Ridership Projections

Changes in ADA Coverage Area

The following maps illustrate the change in the ADA service area corresponding with the changes in each plan phase. A buffer of three-quarters of a mile was applied to the fixed route network in each phase to derive the updated ADA service area. Overall impacts to the ADA service area minor in terms of changes in overall area served. Additional detailed analysis of specific existing trip making on ADA service will provide a better understanding of the specific impacts of the change in ADA service area.

Proposed Weekday Network - Phase 1 Mountain Metropolitan Transit

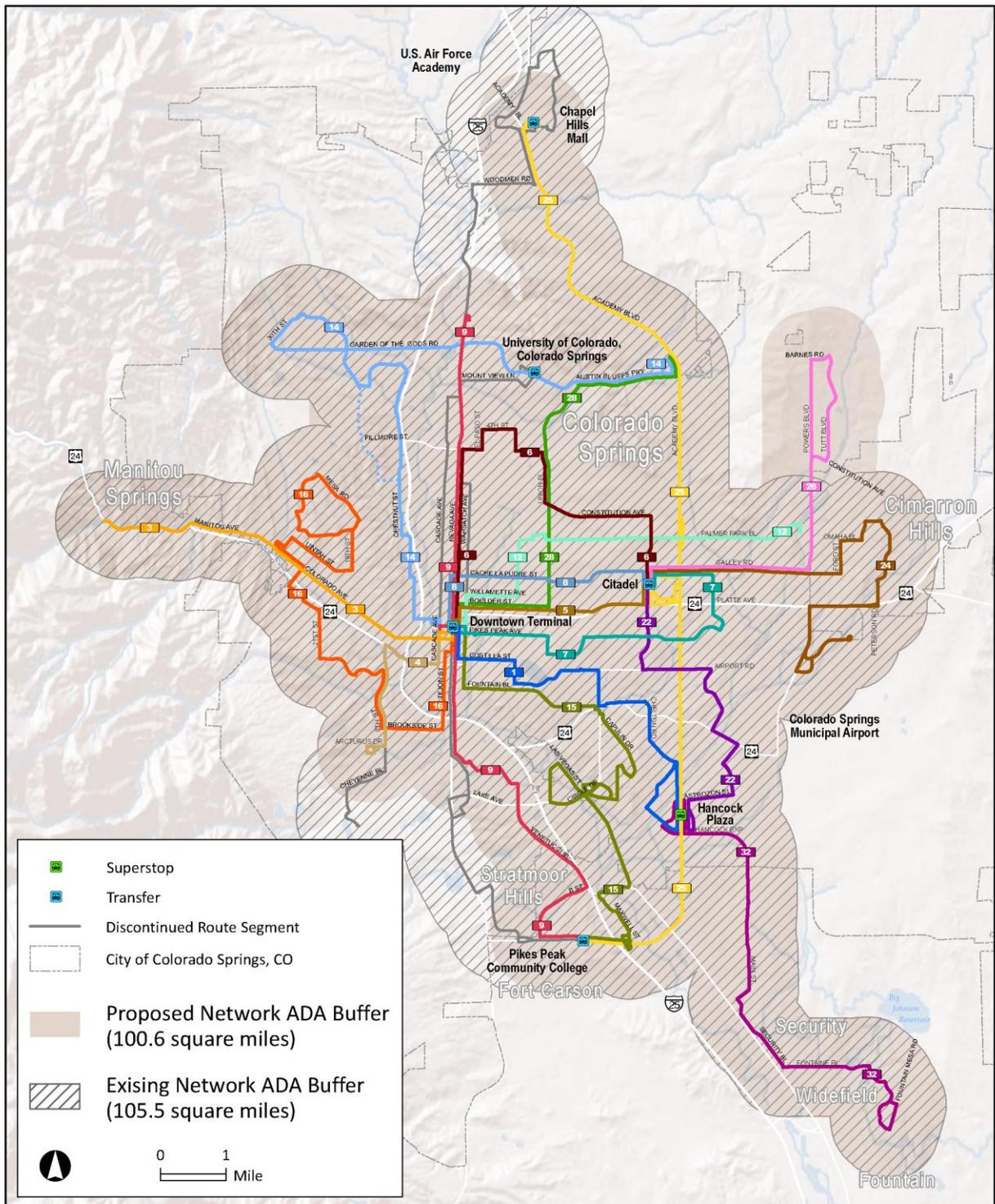


Figure 26: Proposed Weekday Network- Phase 1

Proposed Weekday Network - Phase 2 & 3B Mountain Metropolitan Transit

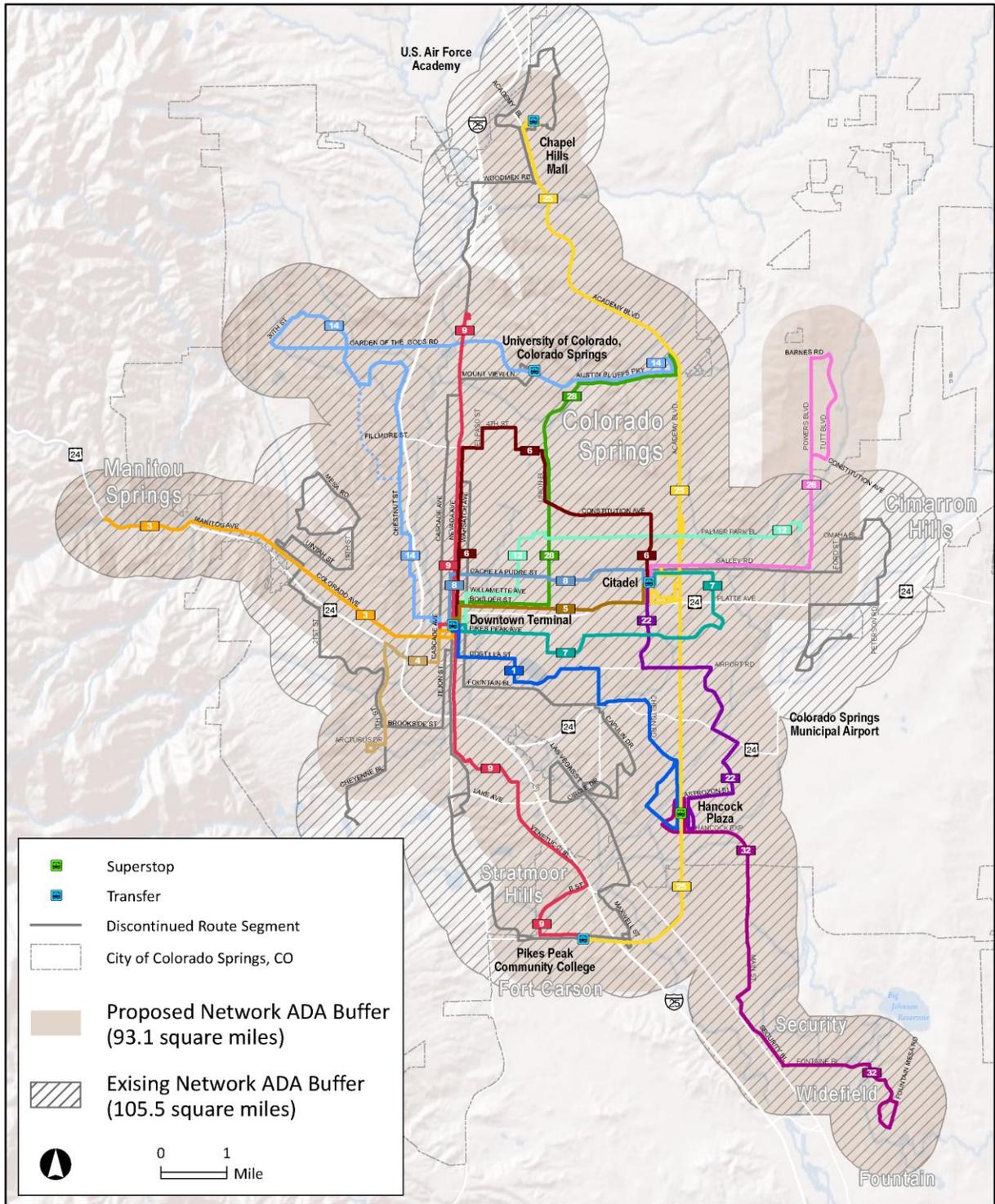


Figure 27: Proposed Weekday Network- Phase 2 & 3B

Proposed Weekday Network - Phase 3A Mountain Metropolitan Transit

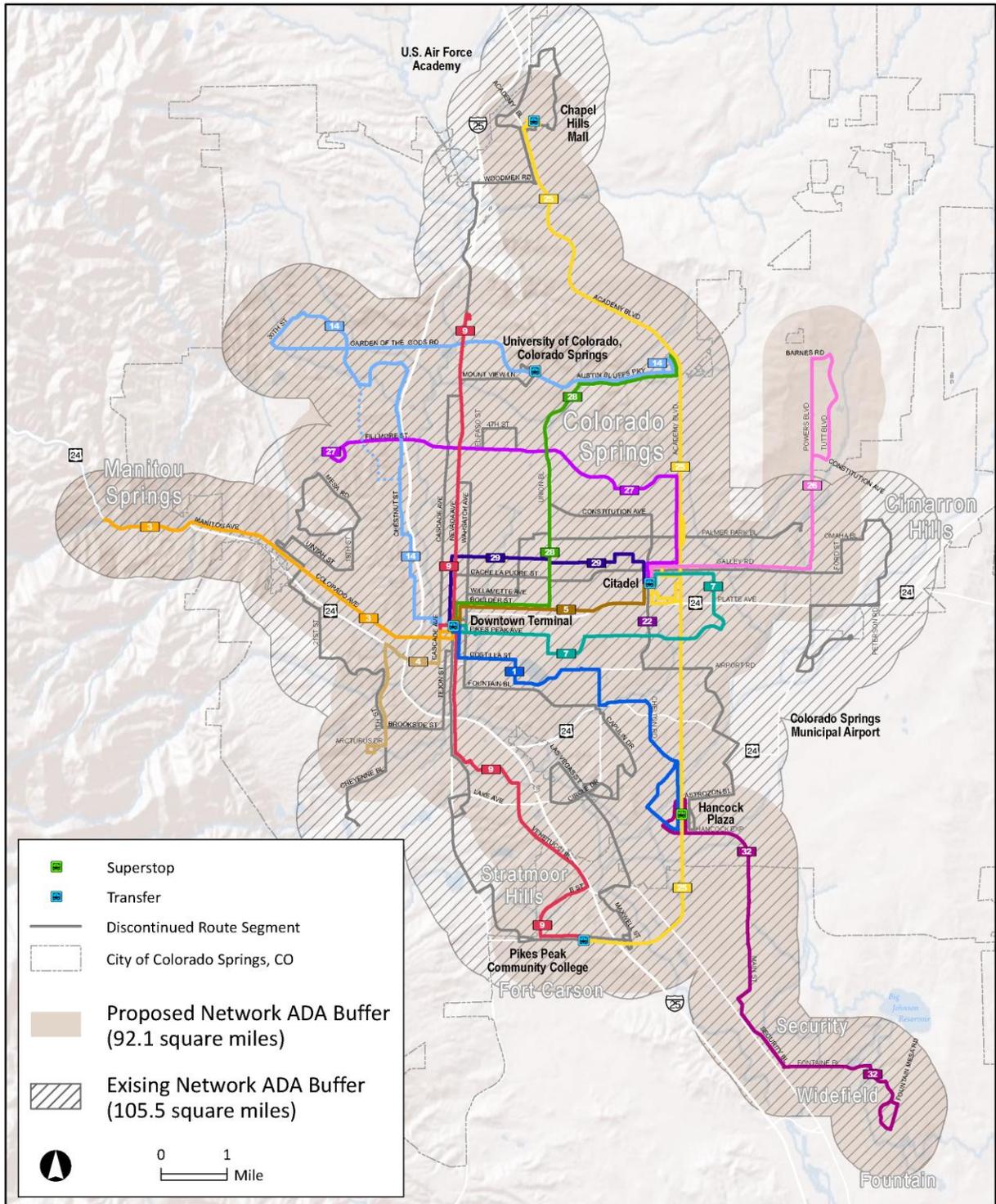


Figure 28: Proposed Weekday Network- Phase 3A

Proposed Weekend Network - All Phases Mountain Metropolitan Transit

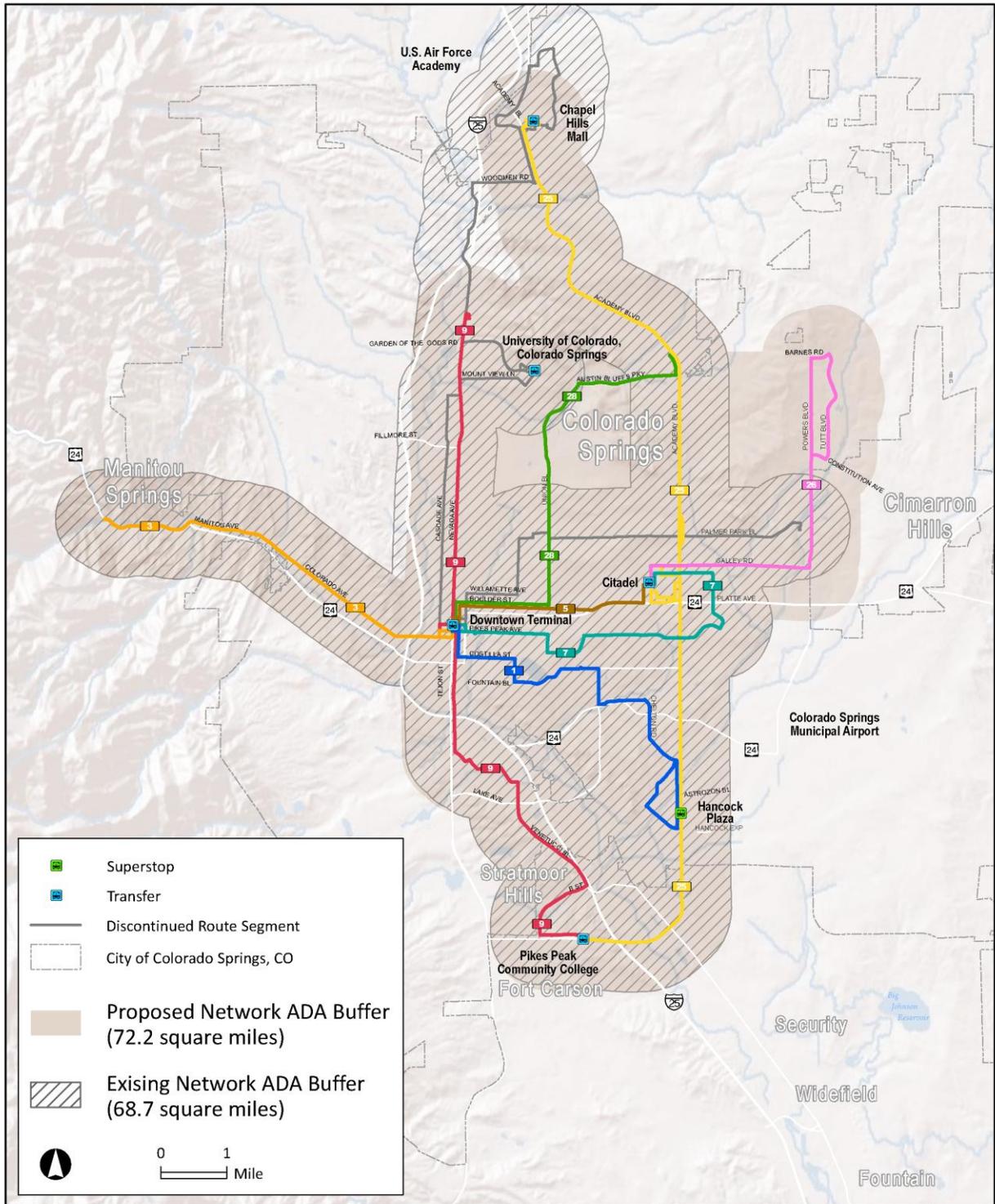


Figure 29: Proposed Weekend Network- All Phases

Implementation Plan

Implementing the Plan

Recommendations vary in the amount of financial resources, community support, or public outreach each requires to be fully implemented. The MMT COA recognizes that each recommendation carries with it practical considerations in the form of implementation costs on top of traditional operating requirements and accounts for this by placing recommendations with higher implementation costs in later phases. As discussed in the recommendations overview, phasing recommendations gives the network the opportunity to develop incrementally. Changes such as route discontinuation can take place over multiple phases with the actual discontinuation only occurring after an alternative service has been identified and put into operation. MMT can also move recommendations to earlier or later phases should it decide to re-prioritize its service plans at a later time.

The timeframe for each phase is fluid, but the recommendations with low implementation costs in Phase 1 can begin to take place within the next year or scheduled service change. Later phases, featuring more new routes and service restructuring, are given a one to five year planning horizon, requiring more time to be completely implemented.

Financial Plan

The recommendations of the COA were designed for implementation within the available funding resources projected to be available to MMT. The financial plan estimated operating costs for the recommended services and ensured that available funding sources would accommodate operating costs. The financial plan was completed iteratively during consultation with MMT staff to ensure projections and assumptions were within reasonable bounds.

Available Funding

MMT provided a projection of available funding over a 5-year planning horizon which incorporated funding from existing reserves, new appropriations, JARC grants, and the recently introduced night service. When all sources of available funding were combined and expressed as revenue hours, a total of 123,000 annual revenue hours were available to fund fixed route operations.

Available Revenue Hours				
Source	Operating Cost	Farebox Recovery	Available Funding (Subsidy)	Available Revenue Hours
Existing Baseline	\$ 8,324,280	\$ 2,027,000	\$ 6,297,280	109,530
Additional Funding	\$ 930,000	\$ 180,000	\$ 750,000	8,680
JARC Funding*	\$ 655,500	\$ 131,100	\$ 524,400	4,750
Total	\$ 9,909,780	\$ 2,338,100	\$ 7,571,680	122,960

Figure 30: Available Revenue Hours

*Assumed to equal number of revenue hours needed for Route 26

Financial Plan by Phase

The following financial plan compares estimated operating costs, projected fare revenue, and available funding to evaluate the financial sustainability of each phase of the plan. A comprehensive estimate of route-by-route operating costs was used to generate annual estimates of the total operating resources required to operate each phase. The estimated revenue hours were used to project operating costs for fixed route and new ADA coverage where necessary. Each revenue hour of existing fixed route service was assigned a full cost rate while any new fixed route service was assigned a marginal cost rate. Revenue was projected using ridership estimates and average fare per passenger. All projections are made in current year dollars and do not include inflation or unit cost escalation.

The available funding for each phase is greater than the projected operating expenses which provides an operating contingency useful for addressing unexpected changes in costs or operating conditions. Maintaining a reserve also benefits MMT by allowing the agency to absorb fluctuations in funding availability and economic climate. MMT should continue to carefully monitor projected operating expenses and available funding to ensure a balanced and sustainable financial future.

Financial Plan by Phase				
	Phase 1	Phase 2	Phase 3A	Phase 3B
Operating Costs				
Fixed Route Revenue Hours	119,460	119,200	118,680	125,320
Additional ADA Revenue	10,250	10,250	10,250	10,250
Fixed Route Operating Cost	\$ 8,772,200	\$ 8,760,500	\$ 8,737,000	\$ 9,036,600
Additional ADA Operating Cost	\$ 635,500	\$ 635,500	\$ 635,500	\$ 635,500
Total Operating Cost	\$ 9,407,700	\$ 9,396,000	\$ 9,372,500	\$ 9,672,100
Fare Revenue				
Projected Ridership	2,905,330	2,893,020	2,942,870	3,036,840
Fare Revenue	\$ 2,498,600	\$ 2,488,000	\$ 2,530,900	\$ 2,611,700
Required Subsidy				
Required Subsidy	\$ 6,909,100	\$ 6,908,000	\$ 6,841,600	\$ 7,060,400
Funding Balance				
Available Funding	\$ 7,571,680	\$ 7,571,680	\$ 7,571,680	\$ 7,571,680
Funding Balance	\$ 662,580	\$ 663,680	\$ 730,080	\$ 511,280

Figure 31: Financial Plan by Phase

Capital Plan

The subsequent table details the capital requirements for each phase. As projected, the number of peak buses for each phase will be greater than the number of buses currently used during the peak periods. Recommended increases in peak frequencies explain the increased capital requirements. If MMT decides to pursue the recommendations in each phase, then it may need to acquire additional vehicles to satisfy peak bus requirements. Furthermore, MMT may require 3 to 4 vehicles from its existing demand-response fleet in order to operate the proposed service routes in Phases 2, 3A, and 3B. Additional capital investment may be needed depending upon the current utilization of the existing demand-response fleet.

Capital Requirements	
Phase	Peak Buses
Current Network	29
Phase 1	30
Phase 2	31
Phase 3A	33
Phase 3B	35

Figure 32: Capital Requirements
 Phases 2, 3A, and 3B do not include vehicles necessary for operating service routes from demand-response fleet

Public Involvement

Successfully implementing the phased recommendations will require buy-in from the local community, key decision makers, and the customer base. Providing the constituency with justifications supported by data will bolster the recommendations and help the plan move forward particularly during the transition between each phase. When proceeding with the recommendations, public engagement should aim to: a) follow MMT’s historic public outreach policies regarding major service changes; and b) incorporate the transit recommendations from the COA into future city and regional master planning efforts, including land use decisions that impact the development of sustainable communities.

Next Steps

During the course of the COA several important issues were identified that may call for further consideration by MMT:

- Developing a Public Involvement Plan
 - The previous section recognized the importance of public involvement, and a plan should be developed to begin informing the public once the plan moves forward.
- Running Time Analysis
 - The recommendations were optimized using established running times from MMT. The plan’s efficiency is dependent upon having accurate operating data. Attributing reliable

running times to each route is important for calculating capital requirements, and differences in actual versus expected running times can increase resource requirements and decrease system efficiency. It is critical that a running time analysis be conducted in order to ensure the feasibility of projected running times for both existing and proposed routes.

- Establish On-time Performance and Delay Reduction Policies
 - On-time performance and delay reduction policies can help preserve or improve running times, which increases the reliability of service.
 - MMT has taken immediate steps towards delay reduction by improving stop spacing across the system.
 - MMT staff should explore other opportunities for delay reduction such as changing policies to facilitate quicker boarding/alighting.