



DMAP



DOWNTOWN MULTIMODAL ACCESS PLAN

DENVER, COLORADO

DECEMBER 2005

ACKNOWLEDGMENTS

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Denver Regional Council of Governments
Downtown Denver Business Improvement District

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Downtown street circa 1930



Trolley service in the 1940s

PREFACE

As Downtown Denver continues to grow and change, the transportation system must also grow and change. To ensure this evolution is timely, efficient and cost effective, the City and County of Denver (CCD), the Regional Transportation District (RTD), the Colorado Department of Transportation (CDOT), the Downtown Denver Business Improvement District (BID), and the Denver Regional Council of Governments (DRCOG) initiated the Downtown Multimodal Access Plan (DMAP).

The main goal of the DMAP is an integrated plan for vehicular, freight (primarily delivery services), pedestrian, bicycle and transit access into and throughout Downtown Denver over the next 20 to 25 years. Key elements of plan development are the relationship between land use and transportation, major infrastructure improvements and the important urban design role streets play in creating quality connections between destinations, people, individual land uses and surrounding neighborhoods.

The importance of DMAP is illustrated with several observations and trends:

- Over the past several decades, Downtown has shifted from being a 9-to-5 office employment center to being an all day educational center, residential neighborhood, cultural and entertainment center and transit hub, as well as an office employment center.
- Rail transit has re-emerged as a significant mode. The passage of FasTracks in November 2004 indicates a significant shift away from the auto-related

improvements that dominated the previous 50 years.

- Public streets, sidewalks and alleys comprise about 40 percent of the land area of Downtown, so the rights-of-way have a major impact on the perception of Downtown as a vital and attractive place.
- The public right-of-way is finite, and many uses compete for this limited space—daily movements of pedestrians, automobiles, bicycles, buses, trains and delivery vehicles; access to private properties; commercial activities such as outdoor cafes and street vendors; and occasional public activities such as parades, festivals and demonstrations.
- Downtown is no longer separated from surrounding neighborhoods by seas of unattractive surface parking lots. As Downtown and neighborhoods have grown together through infill development, the expectation of safe and convenient pedestrian access across perimeter arterial streets has increased.
- Downtown has been and must continue to be the heart of Denver, the metropolitan area, and the entire Rocky Mountain region.

The plan is based upon extensive public input over a two-and-one-half-year period. The public process consisted of a series of open houses, topics based workgroups, newsletters, public forums and meetings with individual stakeholder groups and neighborhood organizations. Information obtained through this process was fundamental to the development of the plan at every stage.

The DMAP is Designed to Complement Previous & Current Planning Efforts, including:

- Downtown Area Plan
- Comprehensive Plan
- Central Denver Transportation Study
- Northeast Downtown Plan
- Blueprint Denver
- Parks Game Plan
- FasTracks
- HOT Lanes (I-25)
- Denver Union Station
- Civic Center District Plan
- Metro Vision 2030 & Regional Transportation Plan
- Neighborhood Plans
- Bicycle Master Plan
- Pedestrian Master Plan
- Regional & Downtown Travel Demand Management

DMAP is not a stand alone document. It is designed to complement and build on previous and current planning efforts. Likewise, it is expected that DMAP will be incorporated into future planning efforts.

The plan document that follows includes an overview of Downtown land use and transportation, a summary of current conditions for the six primary modes of transportation, principles guiding Downtown transportation decisions, recommendations, and implementation priorities.



17th Street today



16th Street Mall shuttle

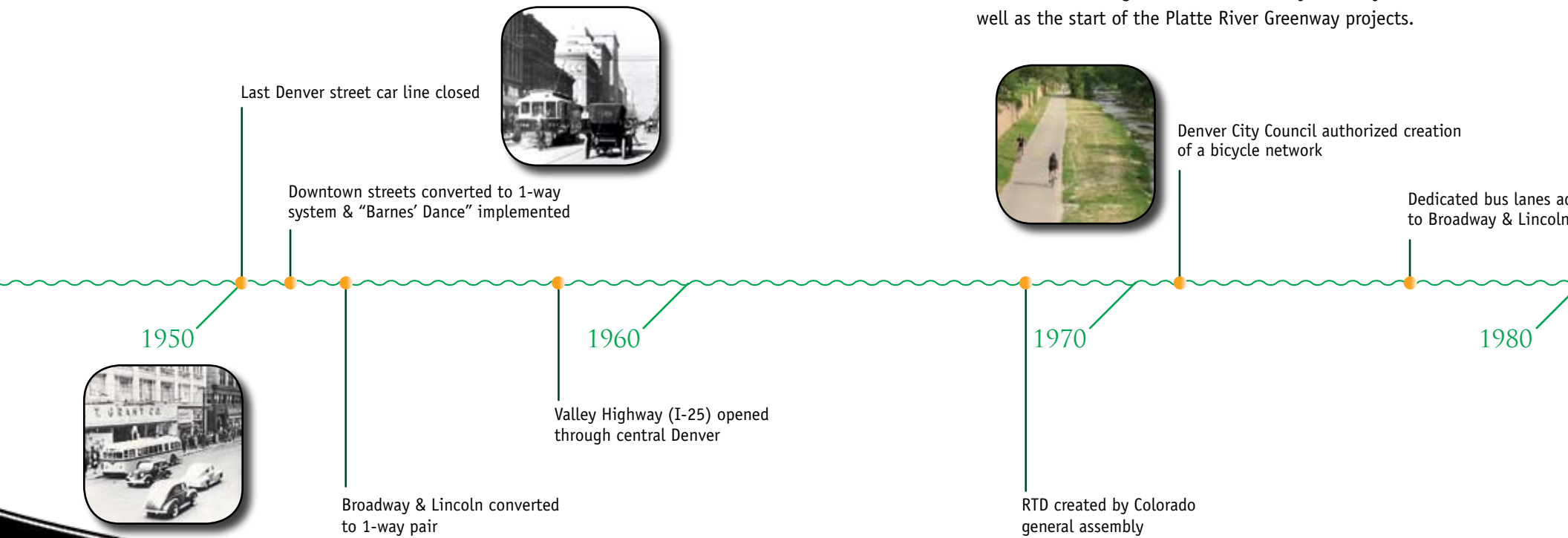
HISTORIC OVERVIEW AND TIMELINE

Between 1950 and 2000, the Denver Metropolitan regional population grew from slightly more than 600,000 to 2,400,000. Despite this phenomenal growth, especially in many of the outlying areas, Downtown Denver has maintained its position as the cornerstone for the region.

The timeline below shows many of the events and transportation-related projects that have enabled Downtown to grow and flourish. The 1950s saw the emergence of the automobile as the dominant travel mode. The Downtown streets and the Broadway/Lincoln corridor were converted to a one-way system and the Valley Highway opened. The conversion of the Downtown streets from

two-way to one-way traffic flow facilitated the innovative concept of halting all traffic at an intersection and allowing pedestrians to cross in any direction, including diagonally. This concept was instituted by Henry A. Barnes and later became known as the “Barnes’ Dance.”

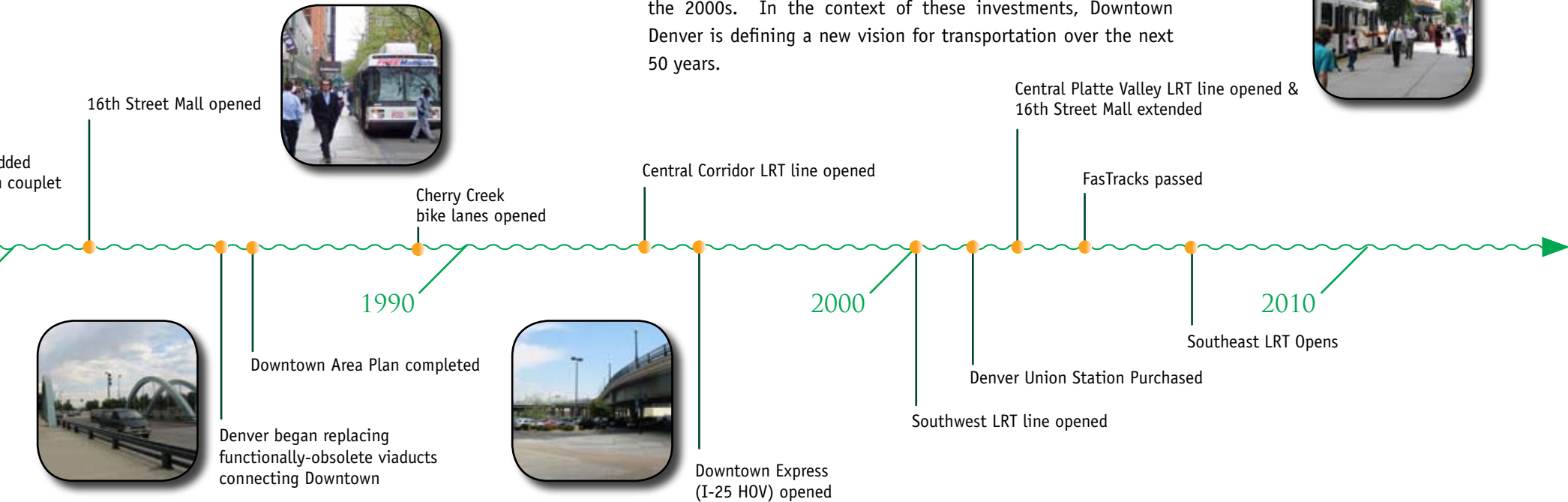
In the 1960s, the Denver Tramway Company closed and the Colorado General Assembly created the Regional Transportation District. The 1970s saw the planning and design begin for the 16th Street Mall. Urban Renewal efforts in the 1970s also resulted in widening of several streets and narrowing of many sidewalks. Other noteworthy accomplishments included the Denver City Council authorizing the creation of a citywide bicycle network as well as the start of the Platte River Greenway projects.



The 16th Street Mall as well as both the Civic Center and Market Street Stations opened in the early 1980s. Denver started replacing the functionally obsolete viaducts that connected Downtown to I-25 and Highlands. The first project involved replacing the Larimer and Lawrence viaducts with Auraria Parkway. This project had secondary benefits. It removed a major thoroughfare through the middle of the Auraria Campus, allowing the campus to become more pedestrian oriented. In addition, the volume of traffic through Larimer Square decreased dramatically, allowing Larimer Street to be narrowed to two through lanes and the sidewalks widened. The replacement of the viaducts was completed in the late 1990s, resulting in higher capacity roadways with quality pedestrian connections between Downtown and the neighborhoods to the west.

The 1990s saw a significant increase in transit capacity to complement the increase in vehicular capacity. The first light rail transit (LRT) line opened in Downtown, followed by the North I-25 High Occupancy Vehicle (HOV) project known as the Downtown Express. The buildout of the high capacity transit system continued into the 2000s with the opening of the Southwest LRT line, construction starting on the Southeast LRT line, the opening of the Central Platte Valley LRT line, and the extension of the 16th Street Mall.

The completion of the Southeast Line (TREX), Union Station improvements, and the passage of the FasTracks initiative ensure Downtown growth will be well-served by the transportation system well into the 2000s. In the context of these investments, Downtown Denver is defining a new vision for transportation over the next 50 years.





Downtown outdoor plaza



Trail crossing under Speer Boulevard

CURRENT CONDITIONS

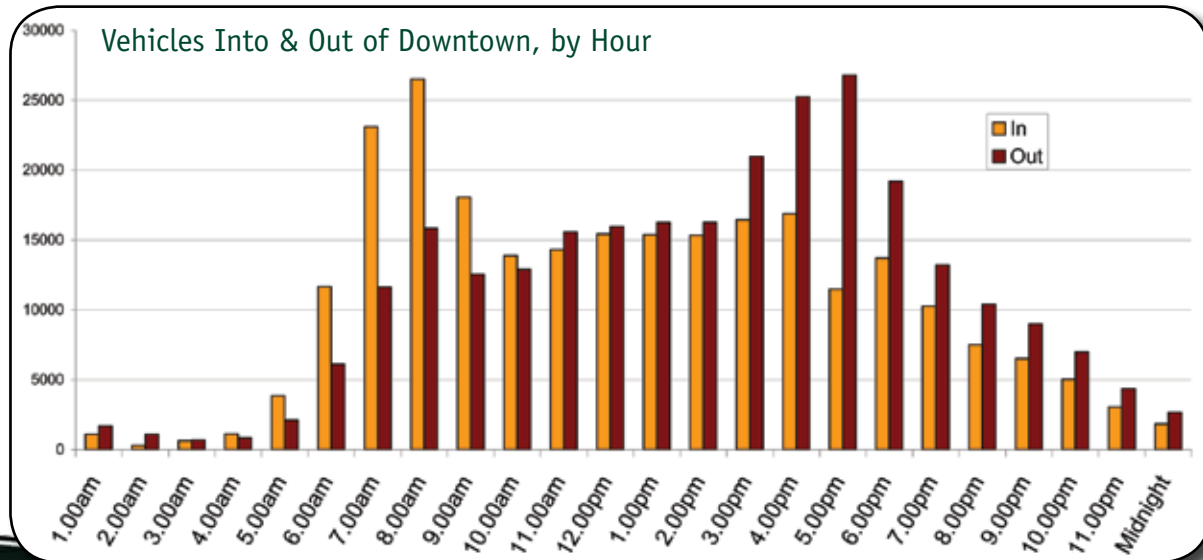
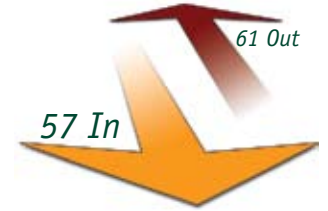
There are six primary components of the existing transportation system. These are Regional Access, Downtown Street Network, Downtown Transit Services, Bicycle Facilities, Parking, and Pedestrian Facilities.

Regional Access

Currently 519,000 vehicles travel into and out of the Downtown area on an average weekday. Slightly over seven percent of these vehicles (39,000) travel during the AM peak hour (8:00 – 9:00am). Sixty-nine percent of the AM peak hour vehicles are entering Downtown and 33 percent are leaving Downtown. Approximately nine percent of the daily total (45,000) travels during the PM peak hour (5:00 – 6:00pm). Sixty-two percent are leaving Downtown and 38 percent are entering Downtown.

The existing roadway system serving Downtown consists of a total of 118 lanes, comprising over 40% of the total land area. Fifty-seven lanes are into Downtown and 61 lanes are out of Downtown. To determine the existing roadway's performance, the capacity of each street was compared to the existing peak hour volumes. The results of this analysis indicate slightly more than 60 percent of the total street capacity is used in the peak hours. In the AM peak hour, three locations are at capacity (20th Street, Speer Boulevard and Lincoln Street) and the volume exceeds the capacity at one location – Auraria Parkway. In the PM peak hour, one location is at capacity (Colfax

118 Roadway Lanes



Avenue) and the volume exceeds the capacity at one location – 20th Street in the Central Platte Valley. It should be noted this type of comparative analysis only gives a general indication of the adequacy of the street system. Some streets have levels of congestion during portions of the peak hour that can only be identified using more sophisticated analysis tools.

Downtown Street Network

The Downtown, for purposes of this study, is bounded by Lincoln Street, Colfax Avenue, Speer Boulevard, the Platte River and 20th Street. Within this area, there are 24 miles of streets. The majority of the street system consists of one-way couplets with usually three through-lanes in each direction. There are a few instances where streets have two-way traffic flow. All of these streets, with two exceptions, are located in either the Lower Downtown or the Central Platte Valley. The lone exceptions are Glenarm Place and Cleveland Place.

The existing street system generally handles the peak hour traffic efficiently and effectively. Based on an analysis of each signalized intersection, only three intersections were identified as problem locations. These intersections are Speer Boulevard and Auraria Parkway, Speer Boulevard and Champa Street, and Colfax Avenue and Bannock Street. All other intersections operate at acceptable service levels.

Downtown Transit Services

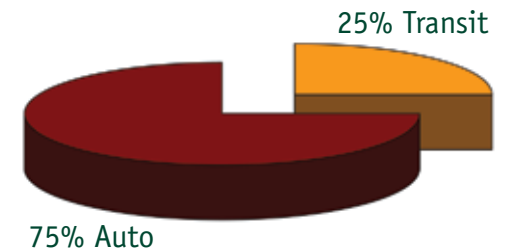
Downtown Denver is served by a variety of transit services. There are 275 buses and 20 trains entering the Downtown in the AM peak hour with more than 9,700 passengers. In the PM peak hour, 255 buses and 20 trains leave Downtown with slightly less than 9,500 passengers. Eighty percent of the peak hour ridership is focused in three areas – North, Southwest, and Southeast. The North includes the 20th Street High Occupancy Vehicle lanes; the Southwest includes the LRT Central Corridor; and the Southeast includes the Broadway and Lincoln corridor.

When compared to the other “modes” or ways to get into and out of Downtown, 25 percent of all people coming into and out of Downtown in the peak hours are using some form of transit. It should be noted this “mode split” is for all trips. The mode split for the Downtown work trip likely will be higher. In fact, a recent survey by the Downtown Denver Partnership showed 46 percent of Downtown employees use some form of transit to get to and from work.

Within the Downtown, the 16th Street Mall Shuttle is the cornerstone of the system. Approximately 60,000 passengers board the shuttle each weekday. Local bus service is concentrated on Broadway, Colfax, 15th and 17th streets. These routes carry roughly 80 percent of the bus traffic Downtown.



Downtown transit stop



Bicycle Facilities

The bicycle facilities serving the Downtown area consist of regional multi-use trails, bike lanes and various types of bike routes. In the Downtown core, bicycle lanes are either planned or provided on 18th, 19th, Glenarm, Lawrence, Arapahoe, and Wynkoop Streets. Bicycles also are allowed on all streets, except for the 16th Street Mall.



Parking

There are a total of approximately 64,500 parking spaces in the Downtown area. Seventy-four percent of the spaces are classified as off-street public; 20 percent are classified as off-street private; and the remaining six percent are classified as on-street. Of the total off-street spaces, 60 percent are located in parking structures and 40 percent are in surface lots. When the parking supply is compared to existing office and retail square footage Downtown, it computes to 1.9 spaces per 1,000 square feet of development. This parking ratio falls within the national range (1.6-2.0) of peak-parking requirements in a downtown with Denver's current level of transit usage.



Pedestrian Facilities

All streets in the Downtown have sidewalks on both sides. The widths range from eight feet to 22 feet per side. The typical and desirable width is 16 feet.

Several streets like the 16th Street Mall, Stout, California, Curtis (from 14th to 16th), Wazee and Wynkoop, as well as Larimer Square, have been enhanced with special pedestrian amenities. In addition, many signalized intersections provide an all-pedestrian walk phase, which is commonly referred to as the “Barnes’ Dance.”



PRINCIPLES GUIDING DOWNTOWN TRANSPORTATION DECISIONS

Any successful planning process starts with a clearly defined purpose and need. For the DMAP, representatives from the City and County of Denver (CCD), the Regional Transportation District (RTD), the Colorado Department of Transportation (CDOT), the Denver Regional Council of Governments (DRCOG) and the Downtown Denver Partnership (DDP) met to define why a Downtown transportation study should be conducted and what it should try to accomplish. The following vision statement is a culmination of their work.

Vision Statement

Downtown Denver is the heart of the region. Its transportation system serves those who live, work, shop and visit with seamless, secure, attractive, worry-free multimodal choices that support a vibrant pedestrian environment.

From this vision for Downtown, a series of goals and principles were identified to guide the development and evaluation of future transportation scenarios and to frame complex trade-off decisions.

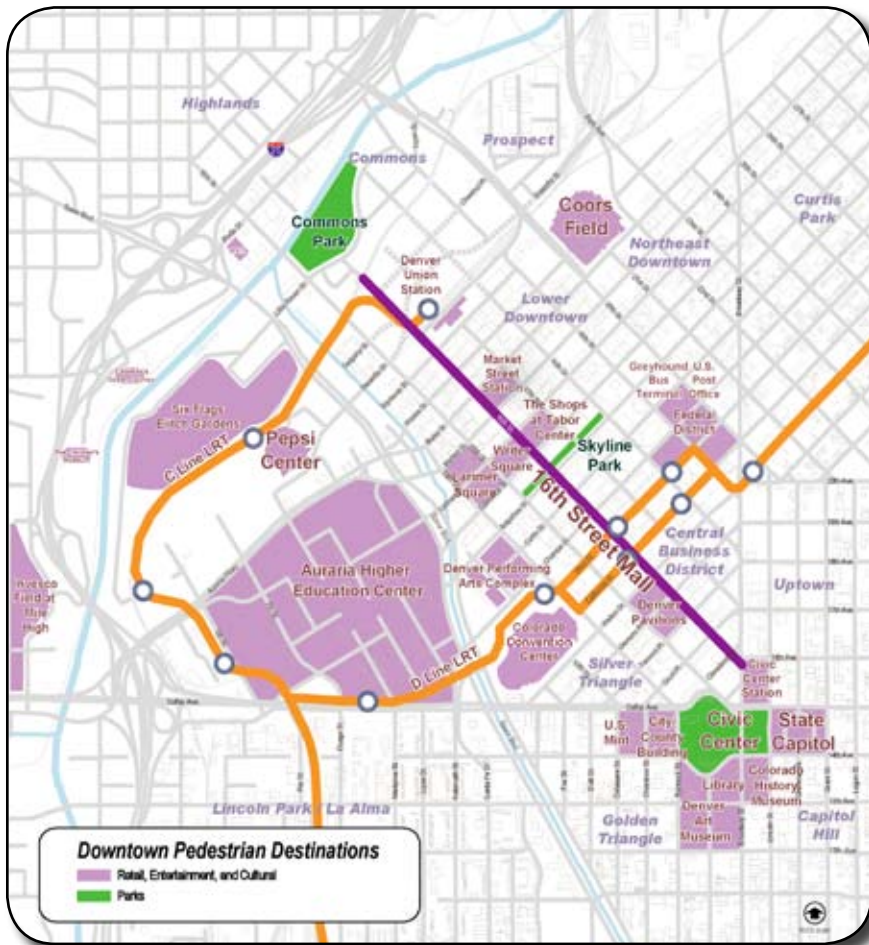
Goal #1

The system should form a comprehensive network that conveniently connects all subareas within Downtown to each other and to the various surrounding neighborhoods.



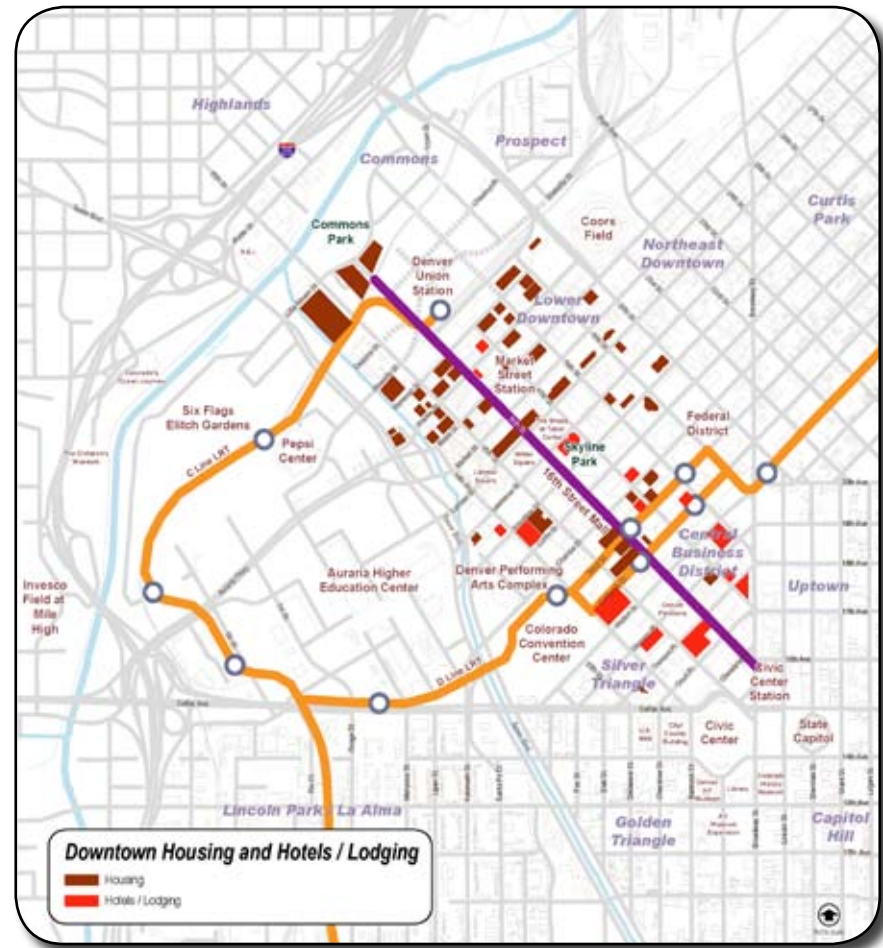
Goal #2

The system should complement the current and emerging development patterns in Downtown by serving pedestrian generators and destinations with direct and enhanced pedestrian facilities.



Goal #3

The system should complement and serve appropriate institutional, cultural and recreational assets in Downtown.



Goal #4

The system should reinforce the unique physical characteristics of Downtown's urban form, including the pattern of streets, parks, parkways and plazas, as well as cherished corridor views.



Goal #5

The system should complement current and future high-capacity transit services with enhancements that benefit both pedestrians and transit users and address the need for "seamless connectivity between modes."



Goal #6

The system Should incorporate existing corridors that have been enhanced for pedestrians, such as the 16th Street Mall and segments of California, Stout, Curtis, Larimer, Lawrence, Wynkoop and Wazee Streets.



Guiding Principles

The following guiding principles inform the specific recommendations of the plan.

- Downtown is a destination for employment, cultural, educational and transit-related uses.
- Downtown will continue to be a major employment center in the foreseeable future.
- Downtown streets should be defined by good urban design incorporating a sense of place and an acknowledgment of all the uses of the public right of way and not solely by the number of vehicles moving through them.
- Downtown streets are a vital focus of city life and must balance the needs of pedestrian, bicycles, transit and the automobile in creating a vibrant and attractive urban center.
- An abundance of people and activities is a fact of life in successful downtowns.
- Downtown streets must continue to accommodate a reasonable level of automobile and truck traffic and the existing street grid system is an effective way of distributing traffic throughout Downtown.
- Streets should be safe and easy for pedestrians to cross and should facilitate strong connections between Downtown and adjacent neighborhoods.
- Curbside parallel parking buffers pedestrians from vehicular traffic and facilitates economic activity.
- Retail and residential activity is essential to Downtown's economic vitality and adequate sidewalks are critical to retail and residential viability.

TRANSPORTATION RECOMMENDATIONS

Downtown Denver has a diverse mix of land uses, including 25.7 million square feet of office space, 2.6 million square feet of retail space, more than 6,300 housing units, 80 acres of parks and open space, and various cultural, sports and entertainment venues. Currently, 110,000 people are employed in the Downtown area.

In 2025, Downtown employment is expected to reach 148,000, which represents a 31 percent increase over existing levels. The number of households is expected to grow to 22,800, which represents a 262 percent increase when compared to existing levels.

As a result, the 2025 peak hour person trips into and out of Downtown are forecast to increase by 42 percent over existing trips. No single mode of travel will be able to accommodate this forecasted demand. Rather, the existing transportation facilities must be managed to maximize their efficiency, and additional multimodal capacity should be added when needed. The challenge is to give appropriate weight to all modes of travel to ensure a balanced multimodal system. Within this framework, numerous transportation-related recommendations have been developed.

Each recommendation is described in this plan. The technical analysis and background information that provides the basis for these recommendations are contained in separate technical memoranda available at the City and County of Denver web site. In addition, a set of innovative multimodal simulation models were created for study area transportation analysis. The VISUM and

Technical Memoranda Supporting Recommendations:

- Existing Conditions Technical Memorandum
- Cordon Line Study Technical Memorandum
- HOT Lane Analysis Technical Memorandum
- Transit Alternatives Technical Memorandum
- Downtown Circulation Study Technical Memorandum
- Background Streetscape Technical Memorandum
- Framework Analysis Technical Memorandum
- Streetscape Standards Technical Memorandum

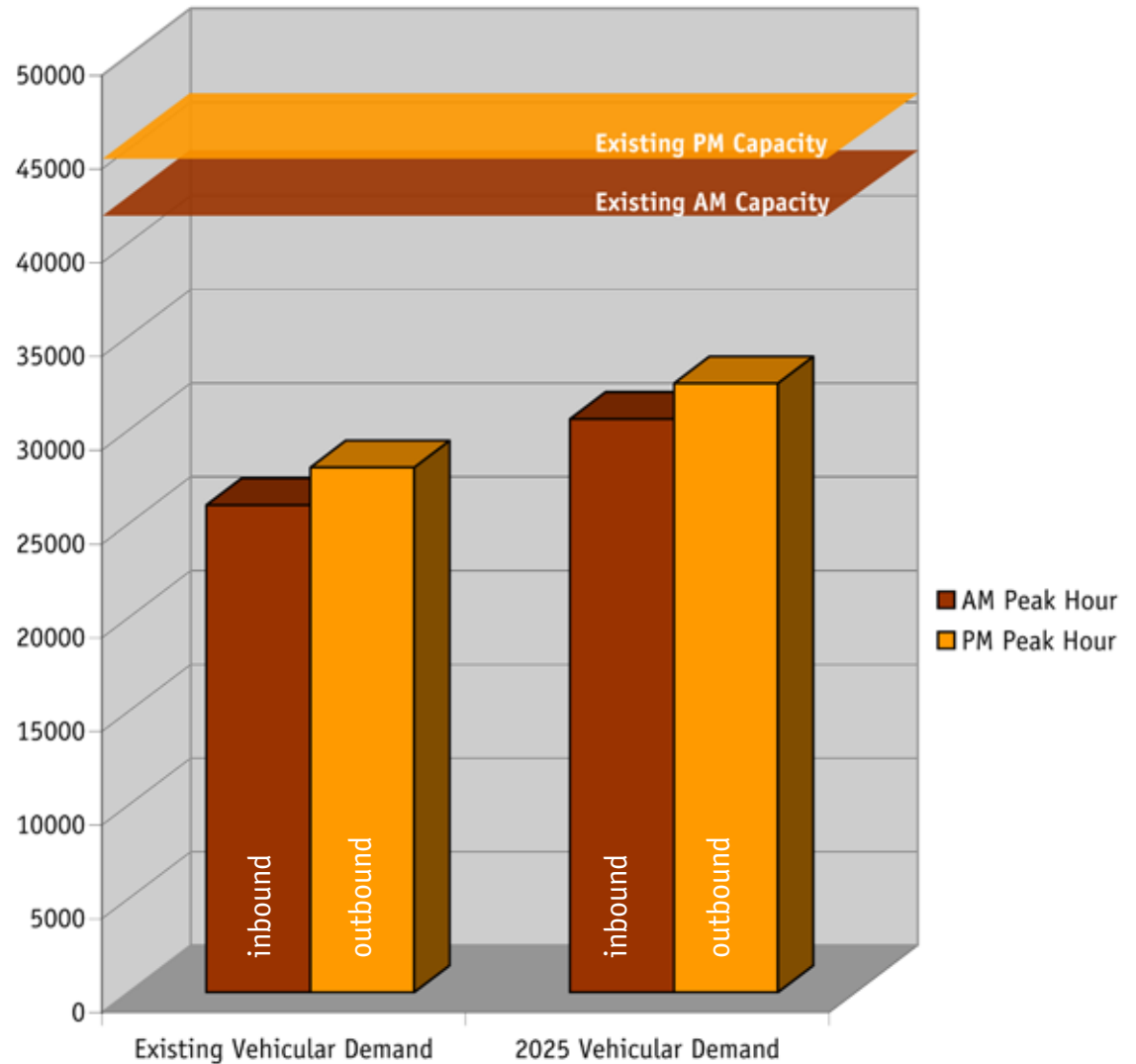
Analytical Tools Supporting Recommendations:

- Downtown Synchro Model
- Downtown VISUM Model
- Downtown VISSIM Model

VISSIM models are sensitive to pedestrian, transit, and vehicular interactions and include over 160 Downtown intersections. These models guided many of the plan recommendations and can be used as a tools for future Downtown multimodal analysis.

Streets – Into and Out of Downtown

There are a total of 118 roadway lanes leading into and out of Downtown. The ability of these lanes to handle 2025 forecasted volumes was analyzed with buildout of the FasTracks improvements. The results indicate these lanes will be capable of accommodating future travel demand with only isolated problems. Consequently, no new general-purpose lanes are recommended for streets into and out of downtown. While widening is not proposed, operational changes that enhance capacity and improve traffic flow are encouraged. The Downtown grid system limits the amount of traffic that can use the existing 19th/20th High Occupancy Vehicle lanes. Any new high capacity vehicle access would have to be placed in another corridor such as Colfax, Speer, or Broadway. Connectivity, impacts to adjacent land uses, traffic operations, safety, and compatibility with neighborhood plans are but a few of the issues that would have to be addressed before any widening project could be initiated.





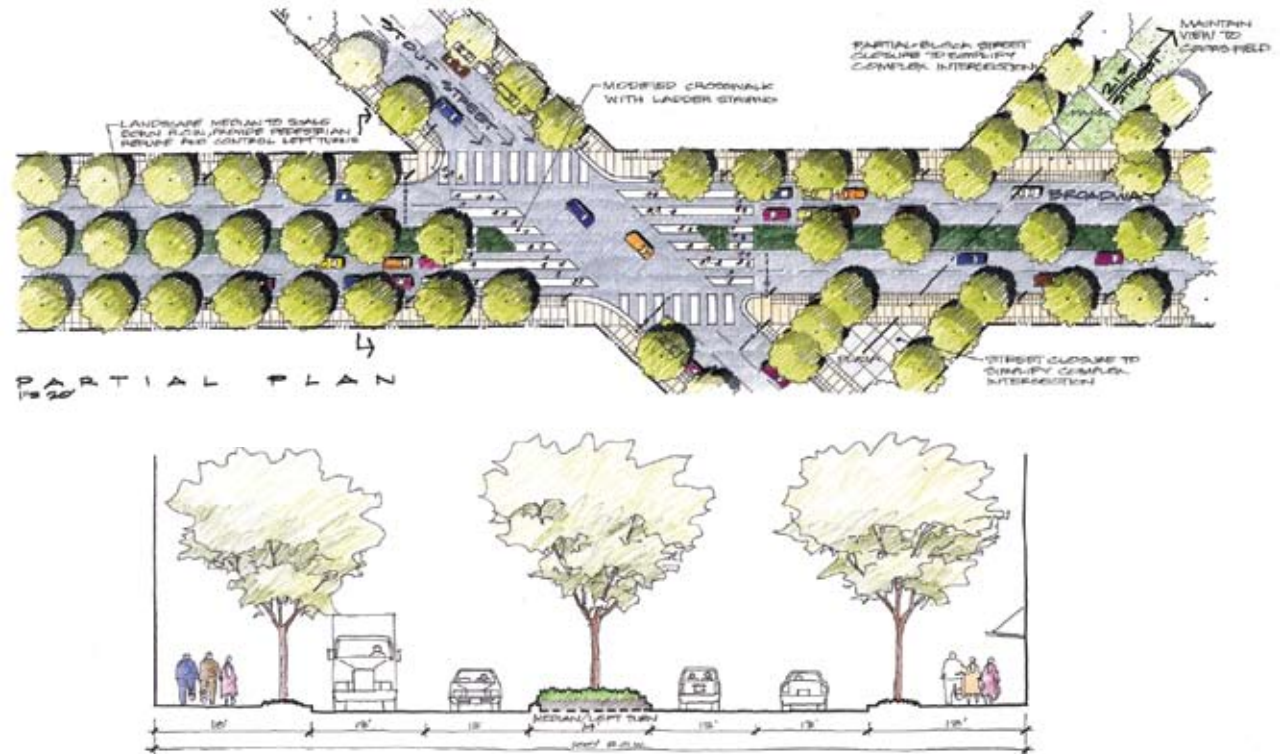
Colfax Avenue

Streets – Bordering Downtown

Five streets form the general boundary for the Downtown core (20th, Broadway/Lincoln, Colfax, Speer and Wewatta). Because of the width of these streets and the volume of traffic they carry, these streets are perceived as barriers between Downtown and adjacent neighborhoods. This problem is compounded for Broadway/Lincoln and Colfax where the street grids “clash” creating large and sometimes confusing intersections for both pedestrians and motorists. The following recommendations are intended to either mitigate or eliminate these barriers.

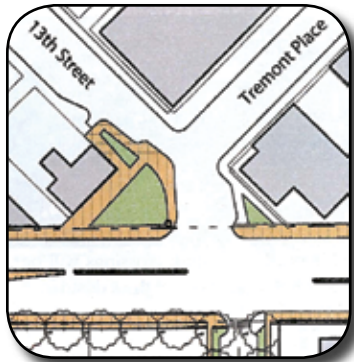
Broadway between 20th Street and Blake Street

- Add a raised median in Broadway to visually reduce the width of the street and to provide a pedestrian refuge area.
- Reconfigure the intersection of Broadway, 20th and Welton
- Reconfigure the intersection of Broadway, 21st and Champa/Stout.



Colfax Avenue between Broadway and Speer Boulevard

- Consider addition of a leading pedestrian interval phase to the traffic signal at both the Colfax and Lincoln and the Colfax and Broadway intersections.
- Reconfigure the intersection of Glenarm, 12th and Colfax.
- Reconfigure the intersection of Tremont, 13th and Colfax.
- *It should be noted these recommendations are also included in the Civic Center District Master Plan.*



*Intersection concept for
13th/Tremont/
Colfax/Delaware*

Speer Boulevard between Colfax Avenue and Wewatta Street

- Provide a wide, inviting below grade pedestrian and bicycle crossing of southbound Speer Boulevard between Larimer and Lawrence. This would be an extension of the current below grade crossing of northbound Speer Boulevard at Creekfront Park.

Wewatta Street between Speer Boulevard and 20th Street

- Extend 18th Street into the Central Platte Valley so there are multiple routes to access Downtown.
- *It should be noted this recommendation is also included in the Denver Union Station Master Plan.*

20th Street between Blake Street and Broadway

- Provide enhanced pedestrian facilities along Blake, Larimer and Arapahoe Streets linking the Curtis Park and Northeast/Ballpark neighborhoods to Downtown.

Pedestrian Crossing Enhancements

- Enhance pedestrian crossings that link adjacent neighborhoods and major attractions to Downtown.
- Consider signal timing changes such as Barnes' Dance, leading pedestrian interval, and countdown signals. *It should be noted some of these signal recommendations would require additional traffic operations analysis.*
- Consider design treatments such as high visibility crosswalk markings, advance stop lines, pavers, colored concrete, additional signage, and in-pavement or sign mounted flashers.



Broadway at 18th Street

Fiscal Note:

Recommendations included in this study require further technical analysis. Implementation of recommendations will require funding that must be prioritized in conjunction with other City needs.



Streets – Within Downtown

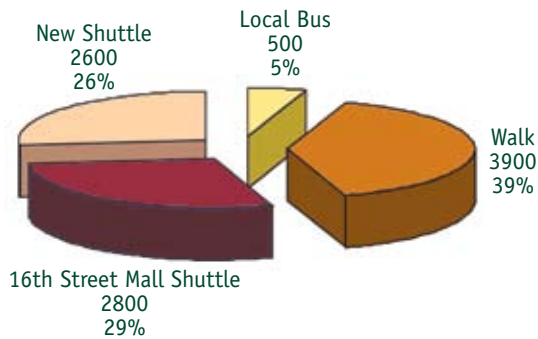
There are eight numbered streets (e.g. 14th, 15th, 16th) and 16 named streets (e.g. Larimer, Lawrence, Arapahoe) providing access to the Downtown land uses. The majority of these streets are designed for one-way traffic flow. Based on public input, various combinations of two-way traffic flow on both the named streets and the numbered streets were analyzed using sophisticated travel demand and traffic simulation tools. The results indicate the predominantly one-way circulation system should be maintained to efficiently and effectively accommodate future vehicular travel demands. In addition, the results indicate that the numbered one-way streets and most of the named streets outside of Lower Downtown should maintain three lanes of travel (e.g. three general purpose lanes or two general purpose and one exclusive transit lane, etc). Streets that currently have four lanes of travel (e.g. Larimer), are candidates for narrowing to provide wider sidewalks.

The right-of-way for most Downtown streets is 80 feet. Within this width, 32 feet is devoted to sidewalks, leaving a curb-to-curb width of 48 feet. This width is adequate to accommodate the three travel lanes and on-street parking, loading zones and turn lanes at select intersections.



Transit

With the completion of TREX and FasTracks, transit ridership is forecast to increase by 129 percent when compared to existing ridership. Much of this increased ridership will be destined for Denver Union Station. 2025 forecasts indicate that approximately 16,000 people will be traveling to Denver Union Station in the peak hour. Of these people, 39 percent will have destinations outside of Downtown and will transfer to other transit routes. The remaining 61 percent will have destinations within Downtown. The adjacent pie chart illustrates how the people with Downtown destinations will complete the last leg of their trip. Based on the demand for transit within downtown, a new shuttle system is needed to complement the 16th Street Mall shuttle and the local bus network.





The figure to the left shows the recommended route for the proposed Downtown Circulator. This route was chosen over numerous other routes for the following reasons:

- Two-way transit service on both 14th and 18th Streets causes numerous traffic operational problems and therefore is not viable.
- One-way shuttle service on 14th and 15th competes with the 16th Street Mall shuttle because of its close proximity.
- The 16th Street Mall shuttle has adequate capacity to serve both the 16th Street Mall and 14th Street markets.
- One-way shuttle service on 17th and 18th also competes with the 16th Street Mall. Placing the shuttle on 18th and 19th, however, starts to mitigate the overlap and would directly serve 55% of the employment in Downtown.
- The proposed route, in conjunction with the 16th Mall shuttle, can efficiently serve major destinations, including Denver Union Station, the cross-mall light rail line, Civic Center Station and the Cultural Complex.



As shown, the new shuttle will leave Denver Union Station and travel to 19th Street via Wynkoop Street in a general travel lane. Once on 19th Street the shuttle will proceed to Broadway in an exclusive transit lane. At Broadway, the shuttle will proceed south in a general travel lane to Colfax Avenue and then in the existing bus lane to a bus turn around area at 12th Avenue and Acoma Street. The shuttle will return to Denver Union Station via 12th Avenue to Lincoln and then Lincoln to 18th Street. The shuttle will be in a general travel lane on both 12th Avenue and Lincoln and then in an exclusive transit lane on 18th Street.

The vehicles for this new route will have similar performance to the 16th Street Mall shuttle. Accordingly, the new shuttle will be capable of meeting the following performance criteria.

- High-amenity shuttle buses with low floors
- Capable of operating every 75 seconds
- Stops every 2 to 3 blocks
- Legible service that is easy to understand and use
- Travel times comparable to the 16th Street Mall shuttle

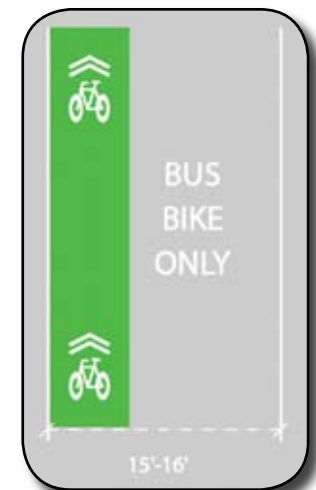
It should be emphasized the existing and proposed Downtown transit system has adequate capacity to meet the 2025 forecasted travel demands. The proposed shuttle route, however, does not preclude other at-grade or below-grade rail routes operating in Downtown beyond 2025, should they be needed. In fact, the exclusive shuttle lanes on 18th and 19th Streets could be converted to rail if Downtown service is expanded.

Bicycles

The Bicycle Master Plan Update 2001 recommended the strategic placement of bicycle lanes on Downtown streets. The following list contains the principles contained in the Plan Update that guided the decision to stripe bicycle lanes on Downtown streets:

- The effort to place bicycle lanes on Downtown streets is in recognition of traffic conditions in the Downtown area; the predominantly one-way street system, the mix of vehicle types and double turn lanes which can be intimidating to many bicyclists;
- Bicycle lanes on Downtown streets can encourage bicycling for commuting and other transportation needs in the Downtown area;
- Better provision for bicycling on streets can serve to reduce unlawful bicycling on Downtown sidewalks which creates conflicts with pedestrians;
- Bicycle lanes should not lead novice or family riders into unsafe conditions; and
- The bicycle lanes should create a system that provides circulation to and through Downtown and safe access from the Cherry Creek Trail, the Platte River Trail and the designated bicycle routes in the surrounding neighborhoods.

The graphic at the right shows the recommended bicycle lanes and routes in Downtown Denver. All of the previously stated street and transit recommendations in this document maintain and





Cyclist on the Cherry Creek Trail

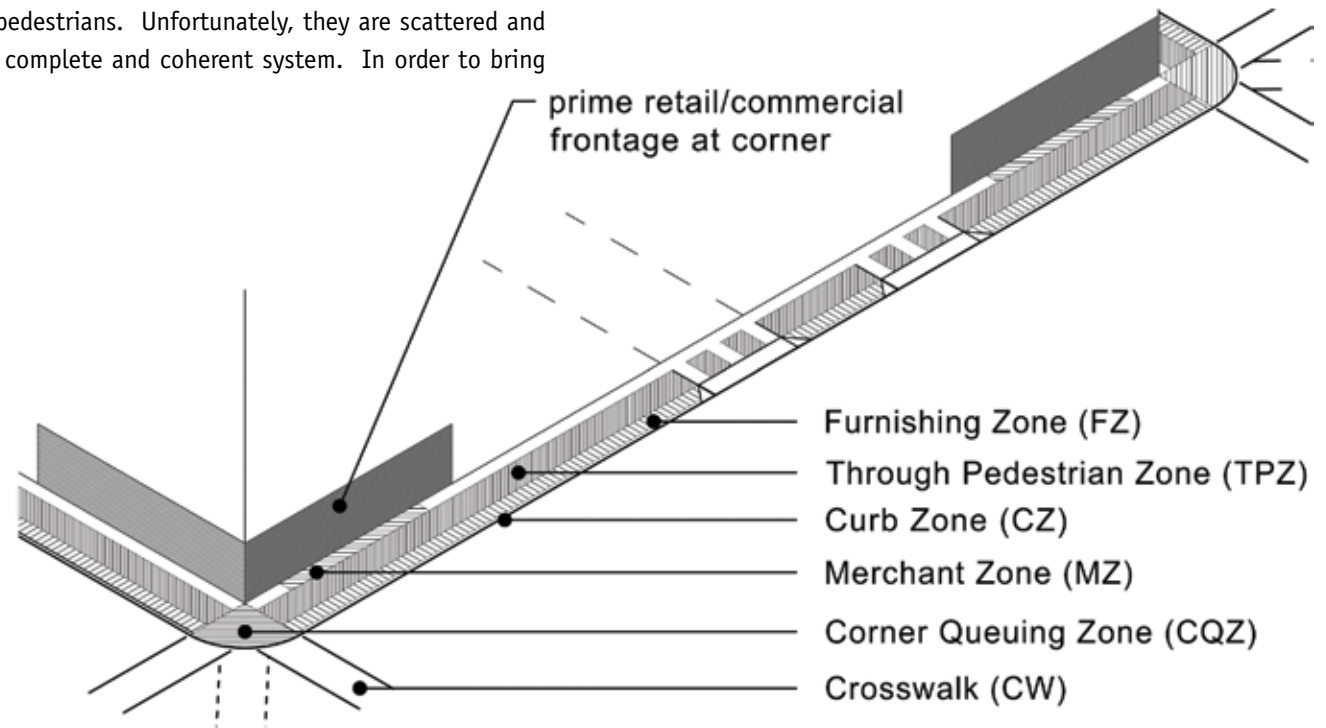
complement the Bicycle Master Plan Update 2001 recommendations for Downtown. The bike lanes on 18th and 19th Streets will be incorporated into the shuttle lanes. This treatment is preferable to a typical 12' shared bike and transit lanes since the 15'-16' width will be able to accommodate a dedicated bike lane. In addition, a new connection should be considered between the bike lanes on 18th and 19th Streets and Sherman Street, which serves as a distributor for the 16th, 19th, and 20th Avenue bike routes.

Pedestrians

There are several streets in Downtown Denver that have been enhanced for pedestrians. Unfortunately, they are scattered and do not form a complete and coherent system. In order to bring

all sidewalks up to a consistent standard, it is recommended that all Downtown streets have a minimum of a 16-foot wide sidewalk on both sides. This recommendation meets criteria for pedestrian environments described in Denver's Pedestrian Master Plan. It also accommodates space for through-pedestrian circulation that is consistent with national pedestrian standards.

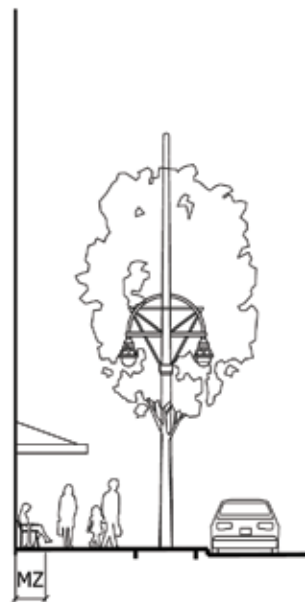
The 16 feet is required to accommodate the four basic linear zones of an urban sidewalk. Starting at the building/property line, the zones are the merchant zone, the through pedestrian zone, the furnishing zone and the curb zone. The diagram below illustrates how these zones are arranged in a typical blockface.



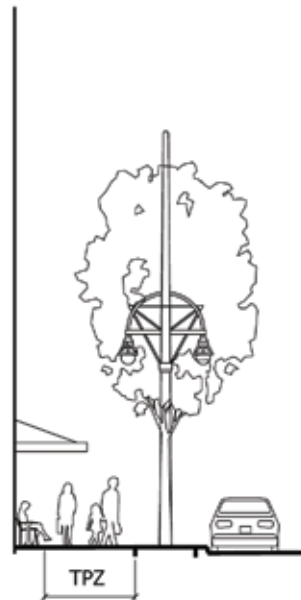
The Merchant Zone is where the adjacent building or private property meets the public sidewalk. This zone is typically 2.5 feet wide. The Through Pedestrian Zone is the primary functional area of the sidewalk for the safe passage of pedestrians along the street edge. This zone for Downtown Denver should be 7.5 feet. The Furnishing Zone locates all of the apparatus necessary for the function of the street for all modes. This zone is typically 5 feet wide. The Curb Zone establishes a safety clearance for vertical objects from moving vehicles in the roadway. It also

provides an open area for passengers to get out of vehicles or deliveries to be unloaded. This zone commonly is 1 foot wide.

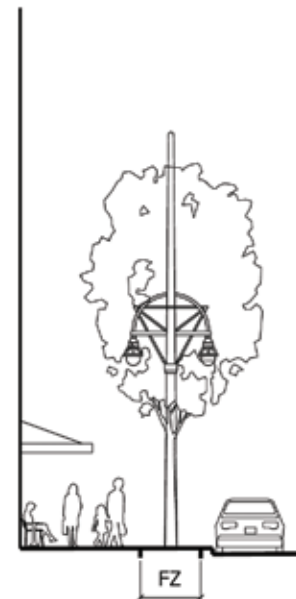
Additional design recommendations for the pedestrian environment are included in the Streetscape Design Guidelines, which were prepared in concert with this plan.



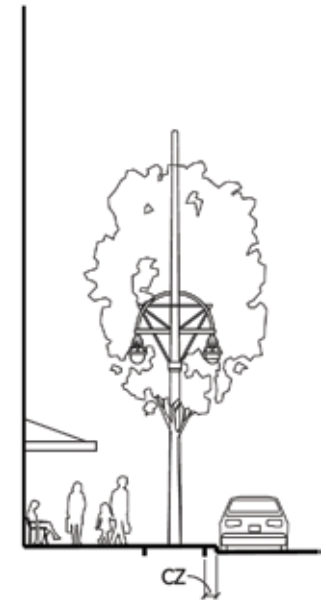
Merchant Zone



Through Pedestrian Zone



Furnishing Zone



Curb Zone



The new Circulator Shuttle is needed by 2013



The Streetscape Plan applies throughout Downtown

IMPLEMENTATION

Plan visions are just that – a collective picture of a more desirable future. There are few, if any, circumstances in the complex milieu of cities in which the planning, design, ownership, financing and political resources align to implement a plan’s visions and goals quickly and simultaneously. As a result, by necessity, plans are implemented incrementally with the vision and goals providing common direction to the multitude of public and private undertakings. Part of the City process is to evaluate each of these large and small, public and private undertakings in light of the plan’s vision and goals, the current situation, and the available resources. Despite this imperfect situation, plans have proven to have substantial influence on the future direction of a plan area over a period of five, 10 or 20 years.

Blueprint Denver identifies three categories of implementation strategies: regulatory, infrastructure, and partnerships. The Regulatory category includes ordinances promulgated by City Council and rules and regulations adopted by City agencies. Infrastructure strategies are based on funding through capital improvements and other public and private investment. Partnerships are those areas where city government cannot or should not act unilaterally. Instead, community organizations, businesses or individual citizens partner with government agencies to achieve the goals and recommendations.

For DMAP, early action items were identified that follow the above implementation strategies. These action items were categorized by where they fall within the overall implementation process.

Construction

1. New Circulator Shuttle – All of the FasTracks projects are expected to be complete by the year 2016. The timeline on the next page shows the sequence of transit related improvements. Based on ridership forecasts, the new Downtown circulator shuttle must be operational by 2013. This infrastructure project will include an exclusive concrete lane on both 18th and 19th Streets, shuttle stop improvements, bus turn-around at 12th Avenue and Acoma Street and Denver Union Station, and acquisition of the buses. The implementation of this project will require a close working relationship between various city departments, affected neighborhoods, and the Regional Transportation District.

Design

2. 14th Street Streetscape Design Project – There are a number of developments proposed along 14th Street. The Downtown Denver Business Improvement District is supporting the implementation of streetscape related improvements to unify the street. The basis for any recommended improvements should be the DMAP and the companion Streetscape Plan.

3. Colfax Avenue/12th Street and Colfax Avenue/13th Street Intersection Improvements – The Justice Center project has budgeted funds for select improvements to Colfax Avenue. Both intersections should be improved to meet the goals of both the DMAP and the Civic Center District Master Plan.
4. Streetscape Design Guidelines – These guidelines will ensure a higher, consistent level of pedestrian environment on all Downtown streets and vibrant pedestrian and transit public spaces, in balance with the vehicular and parking needs. The Streetscape Design Guidelines should be used as a City review document to influence future public and private projects as they are undertaken. This document was developed concurrently with and in the overall context of the DMAP process.



14th Street streetscape improvements will continue as redevelopment progresses



A Civic Center Station Plan will incorporate enhanced connections to the east and south

Plans

5. Civic Center Station Plan – The Civic Center District Plan recommends master planning for the Civic Center Station as an enhanced multimodal connection point. This effort would complement the Denver Union Station Master Plan and define the vision for a secondary transit hub downtown, providing for enhanced connections to the east and the south.

Fiscal Note:

The early action items listed here are intended to provide priority with respect to the recommendations of this plan. The actual funding amount and timing will be accomplished through the City's capital funding prioritization process, which considers all of the City's capital needs and any external funding sources.

Downtown Implementation Timeline

2006

I-25 High Occupancy Toll Lane Opens

More traffic entering and exiting LoDo
New signal at 19th/Wynkoop



2007

Southeast Line Opens (T-Rex)

Significantly more Light Rail Transit service into DUS
Regional and Express Bus service reduced

2013

West Line Opens; Downtown Circulator Opens; DUS LRT Opens

New Light Rail Transit service from the West into DUS
Signal timing changes along Circulator route, transit stop improvements, turnaround in Civic Center, and cross section changes to some segments



East Line Opens; US 36 Line Opens; DUS Commuter Rail Opens

New rail transit service to the east and northwest
Improvements focused on Denver Union Station (DUS)

2014

2015

North Metro Line Opens; Gold Line Opens

*New rail transit service to the north and northwest
Rail system in Central Platte Valley complete, all FasTracks rail connections
into DUS complete*



US 36 Bus Rapid Transit Opens; Central Corridor Improvements

*More buses entering and exiting LoDo and the 19th and 20th corridors
Signal timing changes along BRT route in Downtown, quad track LRT
improvements in Central Corridor*

2016-17

2025

Beyond FasTracks

*Considerations include additional rail or fixed guideway transit connections
to the south and east, increased transit service in FasTracks corridors, and
an additional HOV connection into Downtown from I-25*

