Countywide Transportation Plan

A Cooperative Effort of

Jefferson County • Arvada • Broomfield • Golden
Lakewood • Westminster • Wheat Ridge, Colorado

Published by
Jefferson County Highways and Transportation Department
100 Jefferson County Parkway, Suite 3500
Golden, Colorado 80419-3500
http://co.jefferson.co.us

April 1998

Credits

Policy Committee

comprised of members representing:

Jefferson County Board of Commissioners
Arvada City Council
Golden City Council
Lakewood City Council
Westminster City Council
Wheat Ridge City Council
Colorado State Senate Transportation Committee
Colorado State House of Representatives
Jefferson Economic Council
Northwest Metro Chamber of Commerce
West Area Chamber of Commerce
Conifer Chamber of Commerce
Golden Chamber of Commerce
Drive Smart
Council of Homeowners Organized for a Planned Environment (COHOPE)
Jefferson County Planning Commission
Colorado State Transportation Commission
Regional Transportation District Board of Directors
Home Builders Association
Sierra Club
Stevinson Group
Senior Resource Center
City of Wheat Ridge Residents
Colorado Business Alliance

Technical Committee

comprised of members representing:

Jefferson County
City of Arvada
City of Broomfield
City of Golden
City of Lakewood
City of Westminster
City of Wheat Ridge
Denver Regional Council of Governments
Regional Transportation District
Colorado Department of Transportation

Thanks to the Jefferson County Planning & Zoning Department for design and production of this document and to DRCOG for use of their photographs on the cover.

Executive Summary

In Jefferson County, as well as across the nation, transportation systems are a topic of great concern. As Jefferson County has grown, the transportation system has become more congested and mobility more difficult. The transportation system affects not only the quality of life of the County's and cities' residents, but the economic vitality of its businesses as well. There are many who believe we cannot afford to build the level of roadway systems needed to meet future demand, and that a multi-modal approach is necessary in order to achieve the objectives of this plan.

The Countywide Transportation Plan (CWTP) was initiated in late 1995 to develop a more coordinated approach to transportation issues in the County. Preparation of the Countywide Transportation Plan was accomplished in a four step planning process which consisted of developing the following:

- A vision statement and goals to accomplish the vision;
- A Needs Based Plan to meet the needs of the County to the year 2015;
- A Fiscally Constrained Plan based on a forecast of future revenues; and
- An implementation strategy.

The process included both a Policy Committee, made up of a broad cross-section of leaders and representatives of interest groups, and a Technical Committee consisting of representatives from each jurisdiction within the County, and the regional transportation agencies. In addition, extensive public input was solicited to obtain information on transportation issues and possible solutions. The CWTP consists of a Needs Based Plan ("The Vision") and a pragmatic Fiscally Constrained Plan.

Currently, Jefferson County generates approximately 1.8 million vehicle trips per day. This is forecast to increase by 39 percent, to 2.5 million vehicle trips per day in the year 2015. The impact of this additional demand on the existing and committed (funded) transportation network (the E+C network) would be extreme congestion on the system. In fact, 61 percent of the system would experience a high level of peak hour congestion if additional facilities aren't provided. Currently, 17 percent of the system is congested.

To provide a framework for planning, a Vision Statement was adopted:

"The Jefferson County Transportation Plan will be a unified multi-modal transportation plan which will provide for the efficient, cost effective movement of people and goods, while protecting and enhancing the quality of life in Jefferson County".

Six goals were adopted to accomplish the Vision Statement. Based on the vision and goals, the forecast travel demand, and the identified system deficiencies, a Needs Based Transportation Plan was prepared. Cornerstones of the Needs Based Plan are:

Goals

The Countywide Transportation Plan will:

1. Identify and address deficiencies in our transportation system.
2. Provide a coordinated system that integrates all modes of transportation (motor vehicles, transit, bicycle, pedestrian).
3. Provide for, and improve, the mobility of those who have special needs or are dependent on public or specialized transportation.
4. Encourage Jefferson County and its Cities to work together to provide consistent plans and maximize influence on the regional transportation planning process.
5. Mitigate the impact of transportation on the environment and our communities.
6. Encourage economic vitality.

1. A target of seven percent use of transportation modes other than one driver in one automobile. This would be partially accomplished through establishment of a Countywide Transportation Management Organization, employer based transportation demand management and trip reduction programs, arterial street management programs, and initiation of a countywide transit planning process.

2. Support of future regional plans for transit.

3. A commitment from individual jurisdictions to consult with each other prior to implementing transportation projects.

4. Incorporation of bicycle and pedestrian projects into any major roadway improvement project.

5. Completion of key bicycle, pedestrian, and paratransit projects.

6. Completion of a roadway network that concentrates on principal arterial streets, completes missing links, and/or enhances intersection/interchange movements.

7. Establishment of a process that provides for additional revenue sources, and allows additional projects and programs to be included and prioritized when these funds are made available.

The results of the congestion levels for the 2015 Needs Based Plan would be significantly less than the congestion levels of the forecasted 2015 E+C Plan; twenty percent of the arterial roads are congested in the Needs Based Plan as compared to 61% in the E+C Plan. Implementation of the entire 2015 Needs Based Plan will result in similar congestion levels that were experienced in the transportation system in 1995.

If historic transportation funding patterns were continued through the year 2015, there would not be sufficient monies to fund all the projects and programs identified in the Needs Based Plan. Using a three step priority setting process, those projects having the highest priority for Jefferson County and capability of being funded with the forecast revenues were included in the Fiscally Constrained Plan. The Fiscally Constrained Plan included all of the Transportation Congestion Management (TCM) projects, support for future regional transit planning efforts, all of the regionally critical bicycle/pedestrian projects, and major improvements to the roadway system. While this Plan will not alleviate congestion to the extent of the Needs Based Plan, it will have a positive impact on congestion: 32 percent of the system under the Fiscally Constrained Plan would be congested compared to 20 percent with the Needs Based Plan.

The CWTP sets a broad vision with important goals for the County. It recognizes that it is not possible to fully meet the needs of the County by expansion of the roadway system alone. At the same time, it also recognizes that the roadway system is the framework for other modes of transportation, including transit, paratransit, and bicycle/pedestrian systems. Thus, the plan includes both a strong roadway and a strong multi-modal element.

The CWTP represents an important beginning for coordination and collaboration between Jefferson County and its communities. The plan is premised on the proposition that by working together for the overall good, more can be achieved for all. The next steps include a broad range of implementation strategies that include coordination on projects to be submitted for state and federal funding, support for future regional transit planning efforts, development of action plans for accomplishing TCM projects, pursuit of additional revenues for transportation improvements, and incorporation of policy recommendations into the development review processes of the local jurisdictions.

Introduction

In Jefferson County, as well as across the nation, transportation systems are a topic of great concern. Jefferson County and its communities have grown rapidly. And in turn, the transportation system has become more congested and mobility more difficult. But growth is not the only contributor. There is a greater number of automobiles per household, and the number of trips and vehicle miles traveled are increasing. The Countywide Transportation Plan (CWTP) comes at a time when financial resources for transportation improvements are limited.

Nationally, and locally, many citizens believe that we cannot afford to build the level of highway and street facilities needed to meet increased demand. More and more frequently communities are seeking a multi-modal transportation system - a system that offers a variety of modes, from transit to bicycle and pedestrian facilities, in addition to roadways.

It is within this overall context that Jefferson County and its communities have begun planning their transportation system for the future.

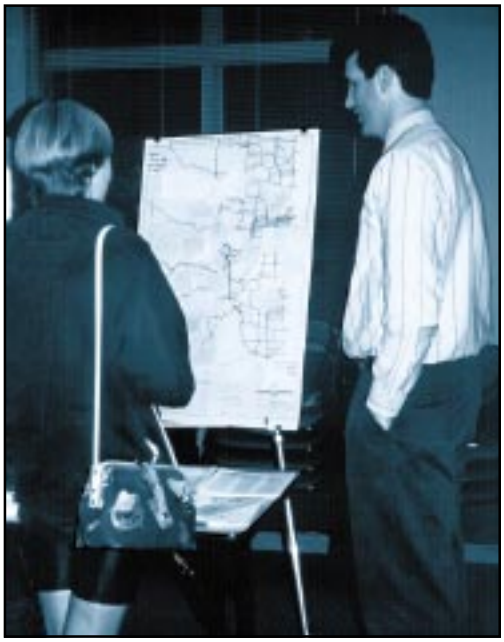
In 1995, the Jefferson County Board of Commissioners completed a collaborative planning process. A goal of the process provided for developing a "long term, multi-modal transportation system that reduces air pollution and considers relationships among transportation, land use, and air quality". In accordance with that policy directive, in late 1995 Jefferson County and the cities of Arvada, Broomfield, Golden, Lakewood, Westminster, and Wheat Ridge began a coordinated transportation planning process for the County.

Phase 1 of the project focused on data compilation, and was completed in March 1996. Phase 2, which is addressed in this report, focuses on development of a multi-modal transportation plan for Jefferson County and its communities.

While the plan encompasses the entire County, it is not intended to replace the plans of local jurisdictions. Rather, the CWTP is intended to be a tool for coordination among jurisdictions.

While the plan encompasses the entire County, it is not intended to replace the plans of local jurisdictions. Rather, the Countywide Transportation Plan is intended to be a tool for coordination among jurisdictions.

Openhouse meetings were held during the process in various locations throughout Jefferson County. Presentations were made to a variety of government, business and citizen organizations, including the governing bodies of six County municipalities.



Both a Policy Committee and a Technical Committee guided the formation of the CWTP. The Policy Committee was made up of a broad cross-section of leaders and representatives of interest groups in the County. The Technical Committee consisted of transportation planners and engineers from each participating jurisdiction, and representatives from the Denver Regional Council of Governments (DRCOG), the Colorado Department of Transportation (CDOT), and the Regional Transportation District (RTD). In addition, an extensive public information and involvement program was utilized to obtain information on transportation issues and possible solutions to transportation problems.

In preparing the CWTP, the County and communities have extensively analyzed which transportation system can best meet their goals. **The CWTP provides a common transportation vision agreed to by the various jurisdictions, and establishes a broad framework of multi-modal transportation facilities needed in the future to meet those goals**. Implementation of the CWTP will require ongoing coordination among all jurisdictions.

This CWTP is organized as follows:

- Introduction
- Background - Planning Process
- Elements of the Countywide Transportation Plan, including:
  - · Roadway System
  - · Transportation Congestion Management (TCM) Program
  - · Transit System
  - · Bicycle/Pedestrian System
  - · Paratransit Program
- Needs Based Transportation Plan
- Fiscally Constrained Transportation Plan
- Implementation

Additional detail on the above topics is contained in separate appendices to this plan, available for viewing in the offices of the Jefferson County Department of Highways and Transportation.

Background

Planning Process

Preparation of the Countywide Transportation Plan was accomplished in four major steps. Each of the steps involved Policy Committee and Technical Committee leadership and review, and incorporated a public involvement process. The four steps are further described in this document, and are summarized below:

Vision Statement

The Countywide Transportation Plan will be a unified multi-modal transportation plan which will provide for the efficient, cost-effective movement of people and goods, while protecting and enhancing the quality of life in Jefferson County.

1. **Vision and Goals**: A clear vision and associated goals were identified and approved by the Policy Committee to guide plan preparation and aid in prioritizing projects.

2. **Needs Based Plan**: Based on existing transportation system deficiencies and a congestion (level of service) target set by the Policy Committee, a multi-modal Needs Based Plan was prepared, designed to meet the needs of the County to the year 2015. This Needs Based Plan established a vision for the future to achieve the goals.

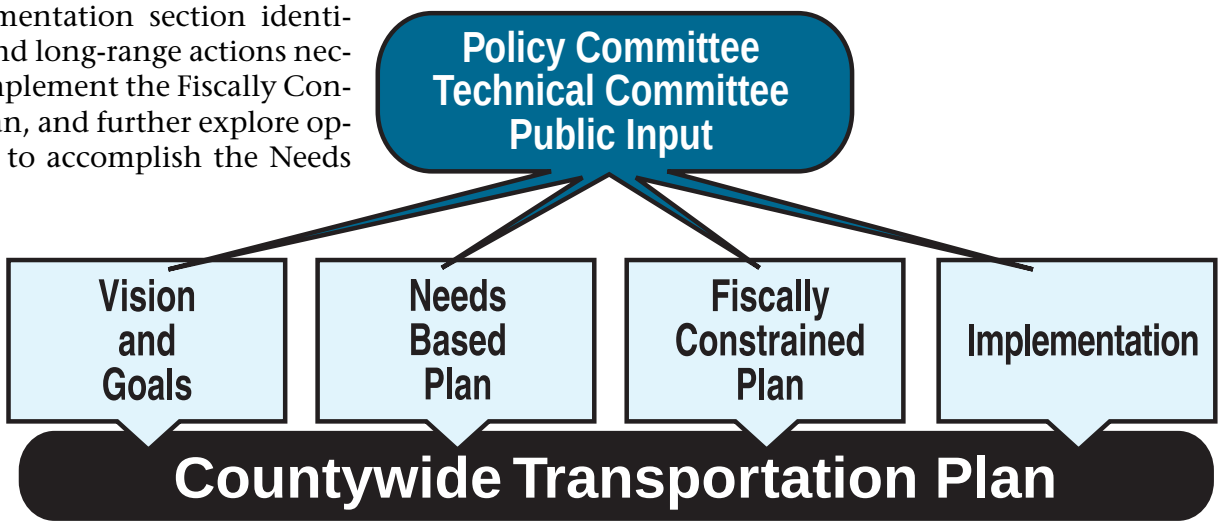
3. **Fiscally Constrained Plan**: Recognizing the need to be realistic in what the County can accomplish, a forecast of revenues based on historical trends was prepared. Projects included in the Needs Based Plan were evaluated based on the goals for the CWTP and funding preferences of the Committees. Priority projects which could be funded within the constraints of the revenue forecast were identified. These projects make up the Fiscally Constrained Plan.

4. **Implementation**:
The implementation section identifies short and long-range actions necessary to implement the Fiscally Constrained Plan, and further explore opportunities to accomplish the Needs Based Plan.

Goals

The Countywide Transportation Plan will:

1. Identify and address deficiencies in our transportation system.
2. Provide a coordinated system that integrates all modes of transportation (motor vehicles, transit, bicycle, pedestrian).
3. Provide for, and improve, the mobility of those who have special needs or are dependent on public or specialized transportation.
4. Encourage Jefferson County and its Cities to work together to provide consistent plans and maximize influence on the regional transportation planning process.
5. Mitigate the impact of transportation on the environment and our communities.
6. Encourage economic vitality.



Forecast Travel Demand

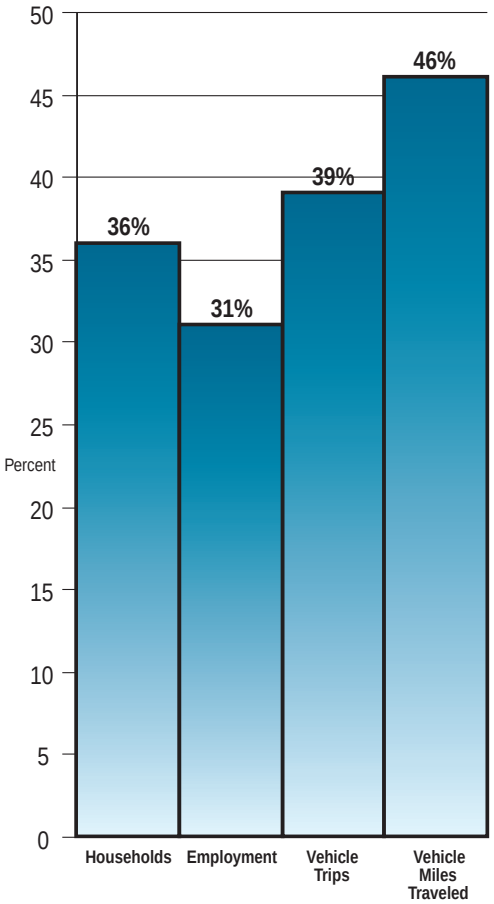
Each day in 1995, approximately 1.8 million vehicle trips were generated in Jefferson County. Of these, approximately one percent were public transit trips, with the remainder consisting of one or more persons making a trip in other vehicles. Vehicles traveled approximately 9.5 million miles on major roads and streets in the County every day.

Jefferson County contained approximately 182,000 households in 1995. The County's households are forecast to grow to 248,000 by the year 2015, an increase of 36 percent over the 20 year period. In 1995, the number of jobs in the County was approximately 209,000. Jobs are forecast to grow to over 272,000 by the year 2015, an increase of 31 percent.

By the year 2015, the number of vehicle trips per day generated from the growth in households and employment is forecasted to increase by 39 percent from 1.8 million to 2.5 million trips. Furthermore, the total vehicle miles traveled (VMT), are forecast to increase by over 46 percent, from 9.5 million to 13.9 million. These increases reflect the changes in travel characteristics occurring across the country and in Jefferson County. The increases in travel demand will result in higher daily traffic volumes on Jefferson County roads and streets.

It is clear that Jefferson County and its communities cannot build themselves out of congestion just with roadways. There is a need to expand all modes of transportation and develop a multi-modal transportation system that will, over the long run, provide realistic alternatives to the single occupancy vehicle (SOV) and encourage the use of alternatives by the traveling public.

Forecast Percent Increase 1995-2015



System Deficiencies

Roadway

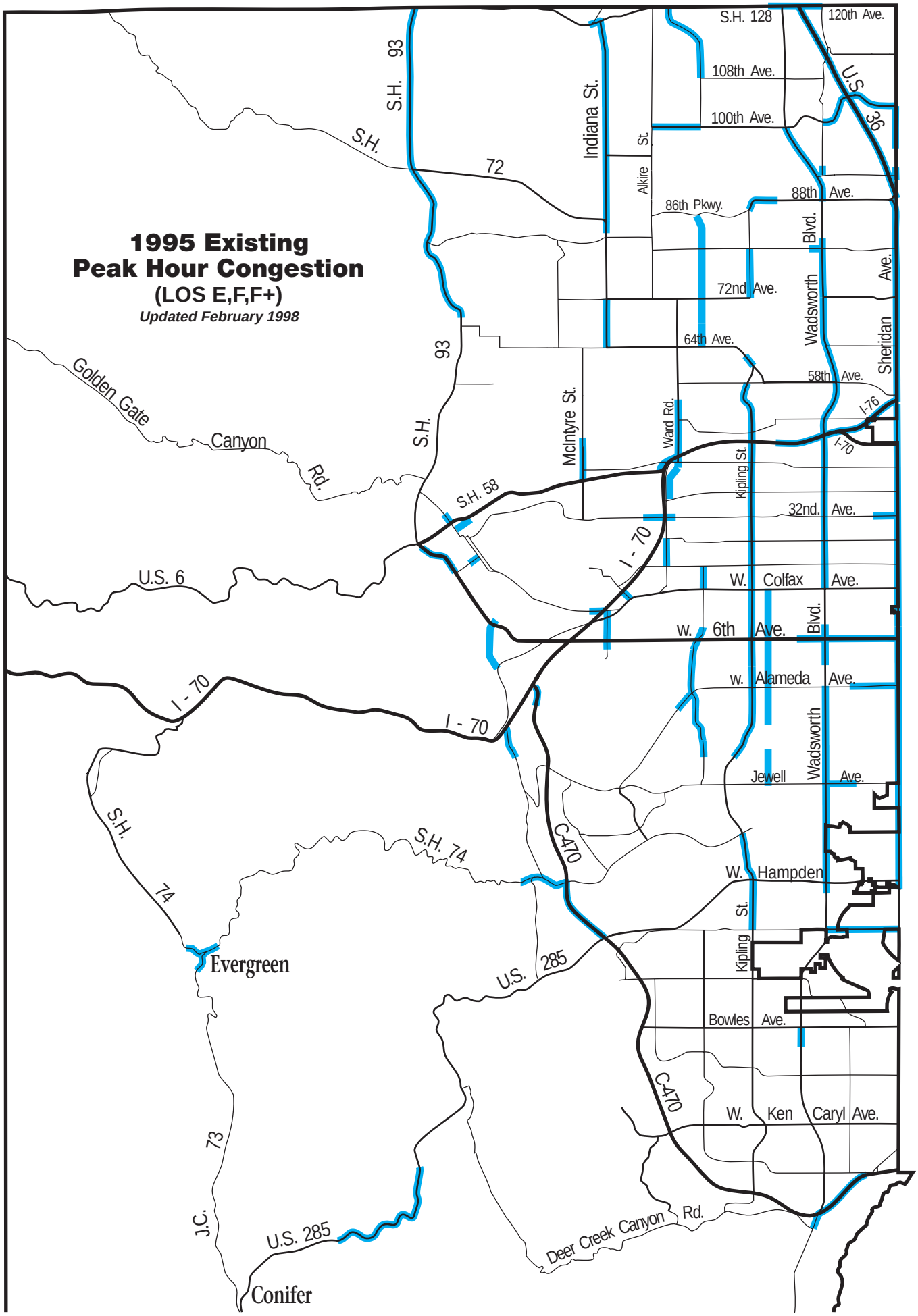
A regional travel model provided to Jefferson County by DRCOG was used as a tool to assess the existing level of congestion on Jefferson County's roadways and to forecast future levels of congestion. As described below, congestion can be measured in terms of Level of Service (LOS). The Policy and Technical Committees established LOS D or better as a goal for maximum congestion during peak hours on all Jefferson County roadways which are classified as arterial or greater.

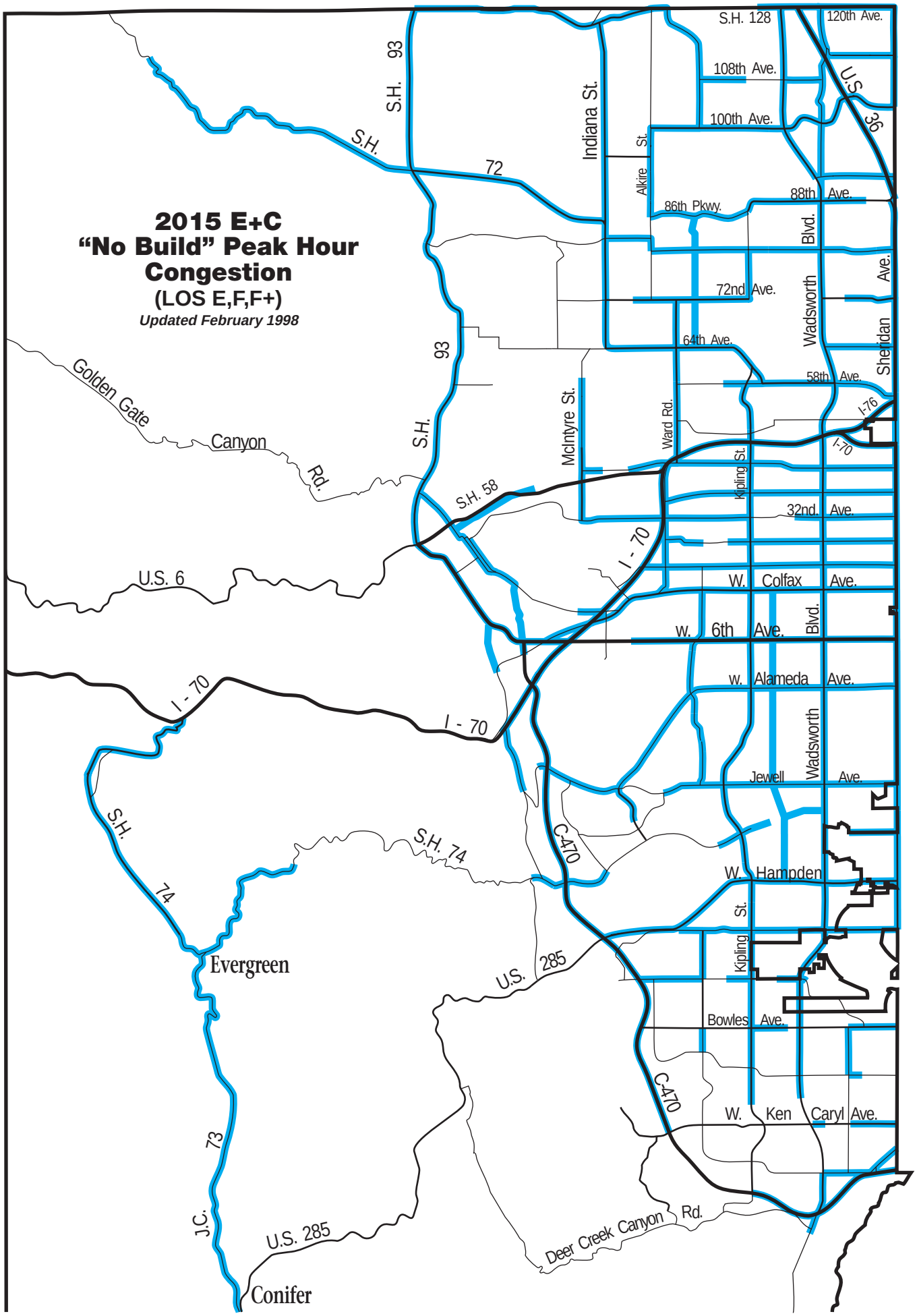
How Is Congestion Measured?

Level of Service (LOS) is a method of estimating congestion on roadways.

LOS Categories

- **A** Free flow of traffic
- **B** Minimum delay, stable traffic flow
- **C** Stable condition, some restrictions due to higher volumes, not objectionable
- **D** Movements more restricted, queues and delays may occur during short peaks
- **E** Actual capacity of the roadway involves delay to all motorists due to congestion
- **F** Forced flow with demand volumes greater than capacity resulting in complete congestion


1995 Existing
Peak Hour Congestion
(LOS E,F,F+)
Updated February 1998
S.H. 93
S.H. 72
Golden Gate Canyon Rd.
S.H. 58
U.S. 6
I - 70
S.H. 74
S.H. 74
U.S. 285
U.S. 285
J.C. 73
Evergreen
Conifer
Deer Creek Canyon Rd.
C-470
C-470
Indiana St.
Alkire St.
McIntyre St.
Ward Rd.
Kipling St.
Wadsworth Blvd.
Sheridan Ave.
U.S. 36
S.H. 128
120th Ave.
108th Ave.
100th Ave.
88th Ave.
86th Pkwy.
72nd Ave.
64th Ave.
58th Ave.
I-76
I-70
32nd. Ave.
W. Colfax Ave.
w. 6th Ave.
w. Alameda Ave.
Jewell Ave.
W. Hampden Ave.
Bowles Ave.
W. Ken Caryl Ave.


2015 E+C
"No Build" Peak Hour
Congestion
(LOS E,F,F+)
Updated February 1998
S.H. 128
120th Ave.
108th Ave.
100th Ave.
88th Ave.
86th Pkwy.
72nd Ave.
64th Ave.
58th Ave.
32nd. Ave.
W. Colfax Ave.
w. 6th Ave.
w. Alameda Ave.
Jewell Ave.
W. Hampden
Bowles Ave.
W. Ken Caryl Ave.
Indiana St.
Alkire St.
Wadsworth Blvd.
Wadsworth Ave.
Sheridan
McIntyre St.
Ward Rd.
Kipling St.
Kipling St.
U.S. 36
I-76
I-70
I - 70
I - 70
I - 70
C-470
C-470
S.H. 93
S.H. 93
S.H. 72
S.H. 58
S.H. 74
S.H. 74
U.S. 6
U.S. 285
U.S. 285
Golden Gate Canyon Rd.
Deer Creek Canyon Rd.
J.C. 73
Evergreen
Conifer

For 1995 (base year) conditions, approximately 17 percent of the roadway system, measured in lane miles of roadway, experienced peak hour congestion worse than LOS D. Most of this congestion occurred in the urban parts of Lakewood, Wheat Ridge and Arvada, particularly along the major north-south arterials such as Wadsworth, Kipling, and Sheridan.

As a basis against which to assess future alternatives, the "no-build" scenario was analyzed. To illustrate the effect of a "no-build" scenario, traffic projected for the year 2015 was assigned to the "Existing + Committed" (E+C) roadway system: that is, the network of existing facilities, plus committed projects for which funds have already been allocated (see Committed Projects Table). As expected, the result of this analysis was extreme congestion in the future, with 61 percent of the system experiencing peak hour congestion below LOS D. The improvements necessary to increase the roadway system capacity to accommodate future traffic at LOS D or better would be beyond the fiscal capacity of the County.

Committed Projects Table

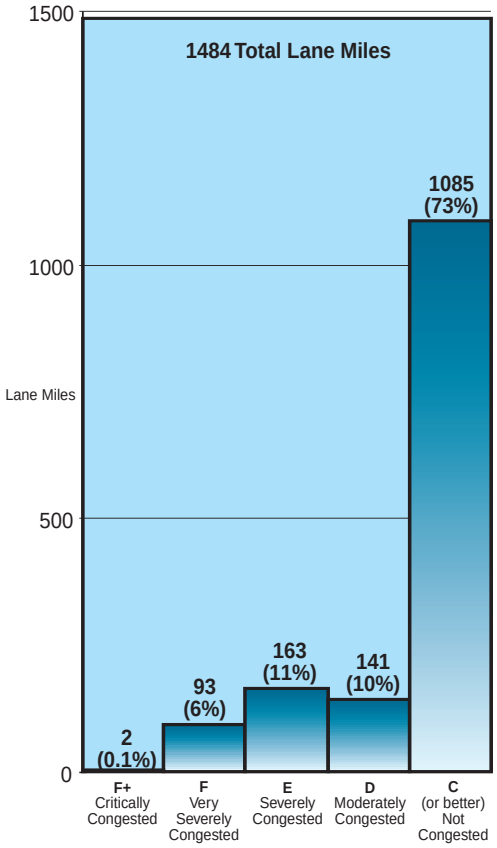
Committed Projects	Project Limits	Improvements
Ken Caryl	Continental Divide to Simms	Widen to 4 lanes
Coal Mine	South Kipling Parkway to South Moore Street	Construct 4 lane connection
C-470 Phase 1	I-70 to US 6	Construct 4 lanes
McIntyre	62nd to 64th	Construct 4 lanes
US 285	Goddard Ranch Ct. To Foxton Rd.	Widen to 4 lanes
Wadsworth	89th to 92nd	Widen to 6 lanes
SH 93	US 6 to county line (north)	Targeted improvements (bridge replacements, shoulders, auxiliary lanes, drainage structures)
West 88th	Harlan to Sheridan	Widen to 6 lanes
West 92nd	Yates to Marshall	Widen to 6 lanes
Church Ranch Blvd (104th Ave)	Old Wadsworth to Wadsworth	Widen to 4 lanes
Harlan/Westminster Blvd/Pierce	104th to 112th	Construct 4 lanes
Alameda	Beech to Bear Creek Blvd.	Widen to 4 lanes
Grant Ranch	Bowles to Belleview	Construct/stripe 3 lanes
Northwest Metro Quadrant Study	Transportation facilities generally defined within the limits of I-70/SH-58 on south, Hogback on west, and the county line on north & east, but influenced by the northwest quadrant of the Denver metro area	Feasibility Study
US-36/US-287/SH-121	Interchange	Feasibility Study

Clearly there is a need to expand all modes of transportation and develop a multi-modal transportation system that will ultimately provide realistic alternatives to the single occupancy vehicle (SOV) and encourage the use of alternatives by the traveling public. This important finding has served as a basic principle in development of the future multi-modal transportation system for Jefferson County.

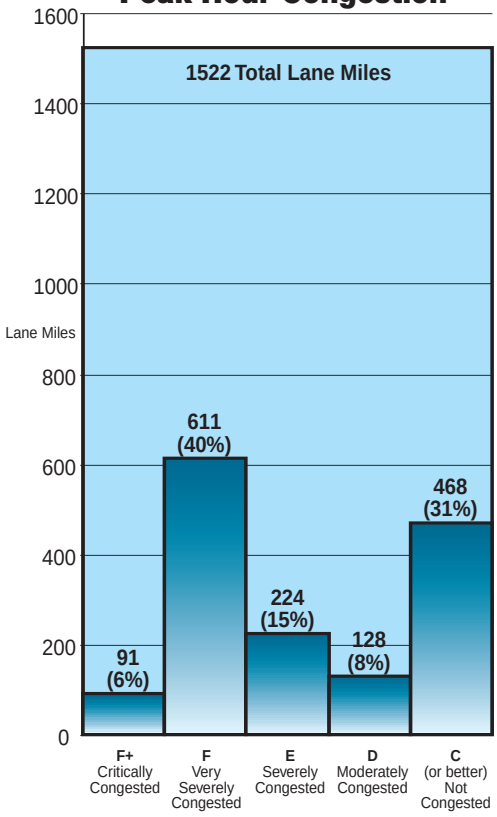
Transit

Jefferson County is part of the Regional Transportation District (RTD), the provider of transit service. Current service is principally express bus and regional bus service transporting patrons to major activity centers, with some local and inter-community routes.

1995 Peak Hour Congestion



2015 E + C ("Do Nothing") Peak Hour Congestion



Elements of the Countywide Transportation Plan

CWTP Building Blocks

- Roadway
- TCM
- Transit
- Paratransit
- Bicycle/Pedestrian

The Countywide Transportation Plan (CWTP) consists of several travel modes that are integrated into one comprehensive transportation system. The elements of the CWTP include:

Roadway: a network of streets and highways that supports motor vehicle travel, bus mass transit, and bicycle and pedestrian travel.

Transportation Congestion Management (TCM): a set of strategies and programs that helps to maximize the effectiveness of the transportation system including travel reduction, use of alternate modes, and congestion relief.

Transit: a system that utilizes and enhances the existing and planned transit service provided by RTD.

Paratransit: a plan that concentrates on meeting the needs of County residents unable to access other means of transportation.

Bicycle/Pedestrian: an integrated system of pedestrian and bicycle facilities that offers travel choices and connections to other modes.

These 5 elements are the building blocks of the Countywide Transportation Plan. Each works in concert with the others, and they must be balanced in order to maximize the efficiency of the overall transportation system. Their individual characteristics are described in the following sections.

Roadway

The roadway component of the Countywide Transportation Plan incorporates the plans of many of the individual communities or elements of future DRCOG plans, and other projects based on the collective judgment of the consultants and Technical Committee. The roadway plan is illustrated on the "2015 Needs Based Roadway Plan." Focusing on the County's arterial streets and highways, it includes:

- Roadway widenings,
- Completion of missing links,
- Improvements for roadway continuity,
- Intersection and interchange additions or improvements,
- Additions of acceleration and deceleration lanes and medians,
- Access control, and
- Construction of high occupancy vehicle (HOV) lanes on key corridors.

It also assumes the following:

- Arterials will be limited to six through travel lanes,
- Arterial/Arterial intersections will be limited to double left turns in all directions and single right turn lanes, and
- Bicycle and Pedestrian elements will be incorporated into new roadway construction or roadway widening.

Transportation Congestion Management

The Countywide Transportation Plan provides for a shift away from Single Occupancy Vehicles, (SOV), to achieve a seven percent alternate modes share. There is no one magical solution to achieving this goal. Rather, success will be the result of a combination of solutions that individually, have a relatively small impact but when considered in unison, have significant potential for providing travel choices and alleviating congestion. Not all Transportation Congestion Management (TCM) strategies contribute to a modal shift, and not all TCM strategies would apply to Jefferson County. Some strategies may be appropriate only in parts of the County. However, carefully selected TCM measures, coupled with increased bicycle, pedestrian and transit modes, could achieve a significant shift over a period of time.

A TCM program for Jefferson County should:

- Be implemented by Jefferson County and/or local municipalities,
- Be integrated with existing TCM strategies planned by other transportation agencies in the metro Denver area, and
- Provide countywide TCM guidance and information.

The "Countywide TCM and Alternate Mode Strategies" table identifies targeted TCM strategies specifically for Jefferson County and its communities.

Success will be the result of a combination of solutions that individually have a relatively small impact but when considered in unison, have significant potential for providing travel choices and alleviating congestion.

Countywide TCM and Alternate Mode Strategies

TCM Strategy	Action	Impact
Implement Community Design Standards	Increase the prevalence of grid streets in new commercial and residential areas for street connectivity	8 - 10% impact to design area trips
	Increase the density of commercial and residential development patterns	2 - 3% impact to design area trips
	Achieve a greater mixture of land uses in development and redevelopment	4 - 7% impact to design area trips
	Provide accessible site design	4 - 7% impact to design area trips
Create a countywide TCM Information Program	Create a program that informs the public of their travel choice opportunities and the resulting impacts on their quality of life	3-4% impact overall to trips
Alternate Modes	Provide improved bike facilities and programs in addition to the network such as lockers and showers at the work place, bike centers and bike racks	<1% impact overall to trips
Arterial Street Management	Optimize our arterial streets through: • Signal timing • Intersection improvements • Transit diamond lanes • Signal preemption for buses • Incident management programs	No impact to trips, but impact to congestion
Trip Reduction Programs	Coordinate and provide technical assistance to employers for voluntary trip reduction programs such as: • Telecommuting centers • Employer work scheduling • Carpooling/vanpooling incentives • ECOPass subsidy • Guaranteed Ride Home Programs	Individually all <1%. Collectively, up to 3 - 4% in design areas.
Transit Services	Provide employer shuttles	<1%
Neighborhood Traffic Calming	Provide staff time and capital construction budget for neighborhood traffic mitigation	No impact to trips, but positive quality of life impact

Transit

The Transit component of the CWTP was developed with the understanding that transportation networks are made up of a variety of modes, each best suited to certain types of trips. Transit is most effective for single-purpose trips, such as the work commute trip. The transit recommendations in this plan are reasonable to attain a two and one half percent to three percent mode share. It will be necessary to combine these improvements with increases in trips carried by other alternative modes in order to make a significant difference in peak hour vehicle congestion.

It is equally important to recognize the institutional and financial needs for developing the recommendations of this plan. The County and its municipalities must identify priorities for both the local transit services and for regional services, and communicate these to RTD. It will be necessary to find a balance between meeting local and regional needs for transit services, which will require more detailed planning on an ongoing basis. A summary of recommendations follows:

Countywide Transit Recommendations

- Support future transit planning efforts
- Establish local transit planning processes
- Develop a detailed transit plan for the County
- Provide additional direct bus service
- Explore additional financing for transit services that cross jurisdictional boundaries
- Participate in RTD's local government planning process

1. Support future regional transit plans to develop a regional rapid transit network and serve as a foundation for an increased transit mode split, in Jefferson County as well as the rest of the region.

2. Modify the countywide transportation planning process, as needed, to address transit and other alternative modes on an ongoing basis. It is important to link plans for transit with those for TCM and Bicycle/Pedestrian elements, so a balanced transportation network can be developed. By doing so, the County can identify the best use of its resources in reducing SOV travel. It is also important to interface with the RTD/Local Government Planning Process and to effectively communicate the transportation network needs in Jefferson County to regional bodies, including DRCOG and CDOT.

3. Develop a detailed transit plan for the County. This may be done on a regional basis with emphasis on the northern, southern, and central plains areas of the County, as well as the mountain communities. Staff time will be required to implement this activity.

4. Work with RTD to provide service to local destinations surrounding the activity centers in Jefferson County, and augment the transit network in northern and southern Jefferson County. This can be accomplished by re-evaluating the bus redeployment strategy to emphasize both connectivity to rail and direct service to local destinations. Also recommended is additional direct service to local activity centers and increased frequencies of service on major corridors.

5. Address the issue of additional financing for local transit services which cross jurisdictional boundaries. The financing issue needs to be addressed jointly by the County and its municipalities. It will also be necessary to work constructively with RTD on financing, as provision of an effective transit network for the region.

6. Participate in RTD's local government planning process.

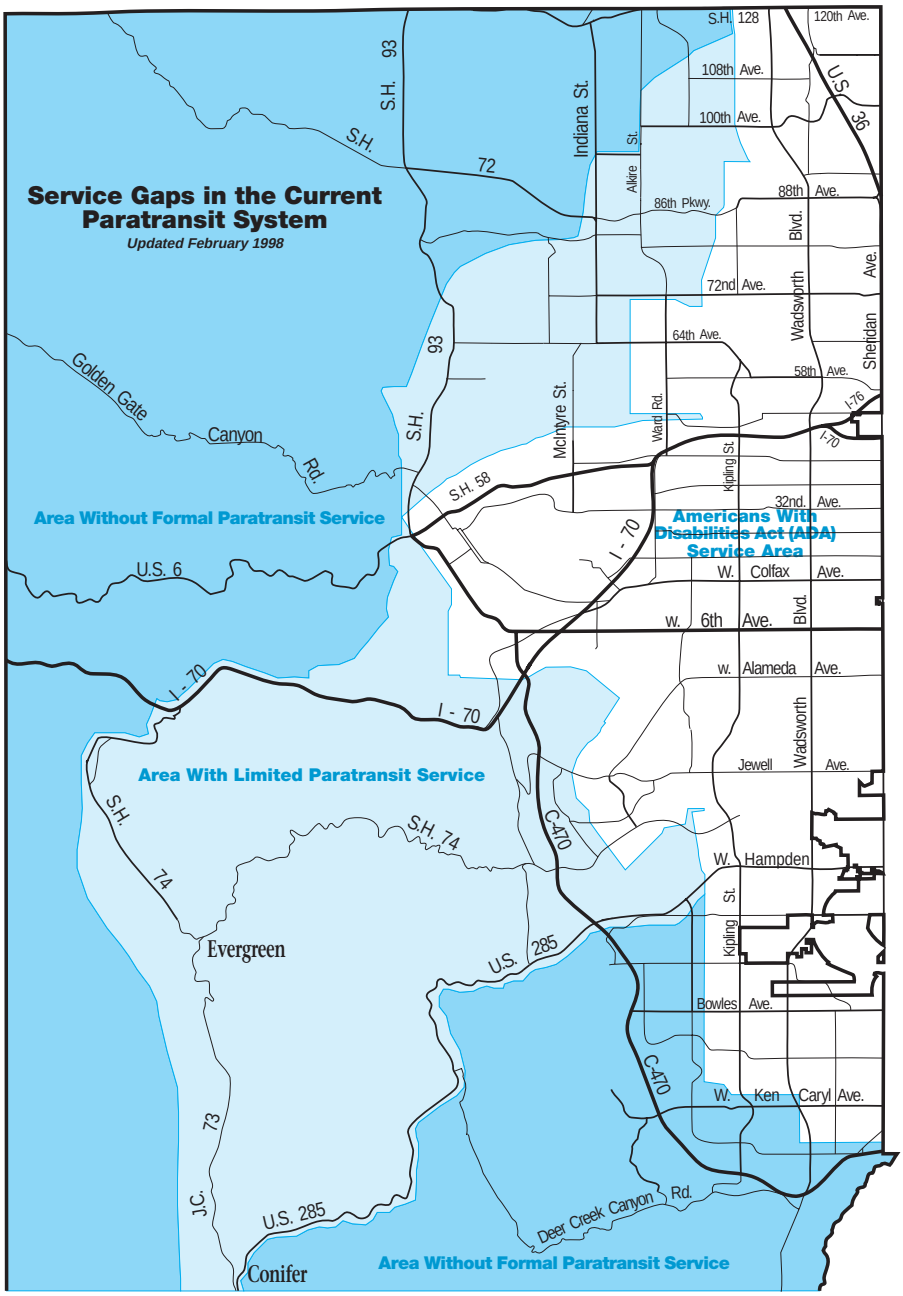
Paratransit

The Countywide Transportation Plan concentrates on enhancing existing paratransit services to meet the increasing needs of County residents. Paratransit is a demand-response service provided to those who cannot drive or reasonably access fixed transit routes. Major components include:

•The need for a countywide transportation paratransit system;

•Policies for a successful paratransit system (included in TCM strategies); and

•Improvements to paratransit service.



Key Paratransit Elements

•Bridge service gaps in the current paratransit system for areas not served by traditional transit, (see map) or areas which have no weekend or evening service.

•Provide more affordable service.

•Make better use of existing vehicles.

Paratransit Improvements

It is recommended that a pilot project be initiated to coordinate paratransit services within the County through a centralized switchboard and on-vehicle tracking equipment. This will allow for more efficient movement of vehicles within a service area. An education program designed to explain door-to-door transportation options to elderly and disabled citizens would be included in the paratransit plan. Part of the education program would direct potential users to the centralized switchboard and explain how to use all transit options.

Bicycle/Pedestrian

The Countywide Transportation Plan focuses on the viable alternative of pedestrian and bicycle modes of travel for *transportation* purposes. The parks department for the cities and the County's open space department will focus on the recreational users of equestrian, pedestrian, and bicycle facilities. The countywide approach to providing bicycle and pedestrian facilities is based on four key elements (listed below). The plan also establishes specific bicycle and pedestrian policies, and suggestes improvements for these modes of travel.

Bicycle and Pedestrian Improvement Recommendations

Connections

Completion of major gaps in the regional system. (Refer to Map and Project List)

Signage

Standardization of signs across jurisdictional boundaries

Design

Standardization of trail design and criteria should be coordinated between adjoining jurisdictions to provide safe transitions of facilities

Key Elements Of The Bicycle Pedestrian Plan

- Linkages that would facilitate inter-jurisdictional travel within and beyond County boundaries;
- Connections that provide local access to activity centers and/or other public places;
- Connections to park-n-Ride lots to encourage strong ties to transit; and
- Connections that meet DRCOG's Transportation Improvement Program (TIP) criteria to be eligible for possible federal funding.

Policies of the Bicycle Pedestrian Plan

Coordination

All agencies involved with the planning and implementation of pedestrian and bicycle facilities should work together to develop a coordinated effort to complete a project which is safe and convenient for alternative modes

Maintenance

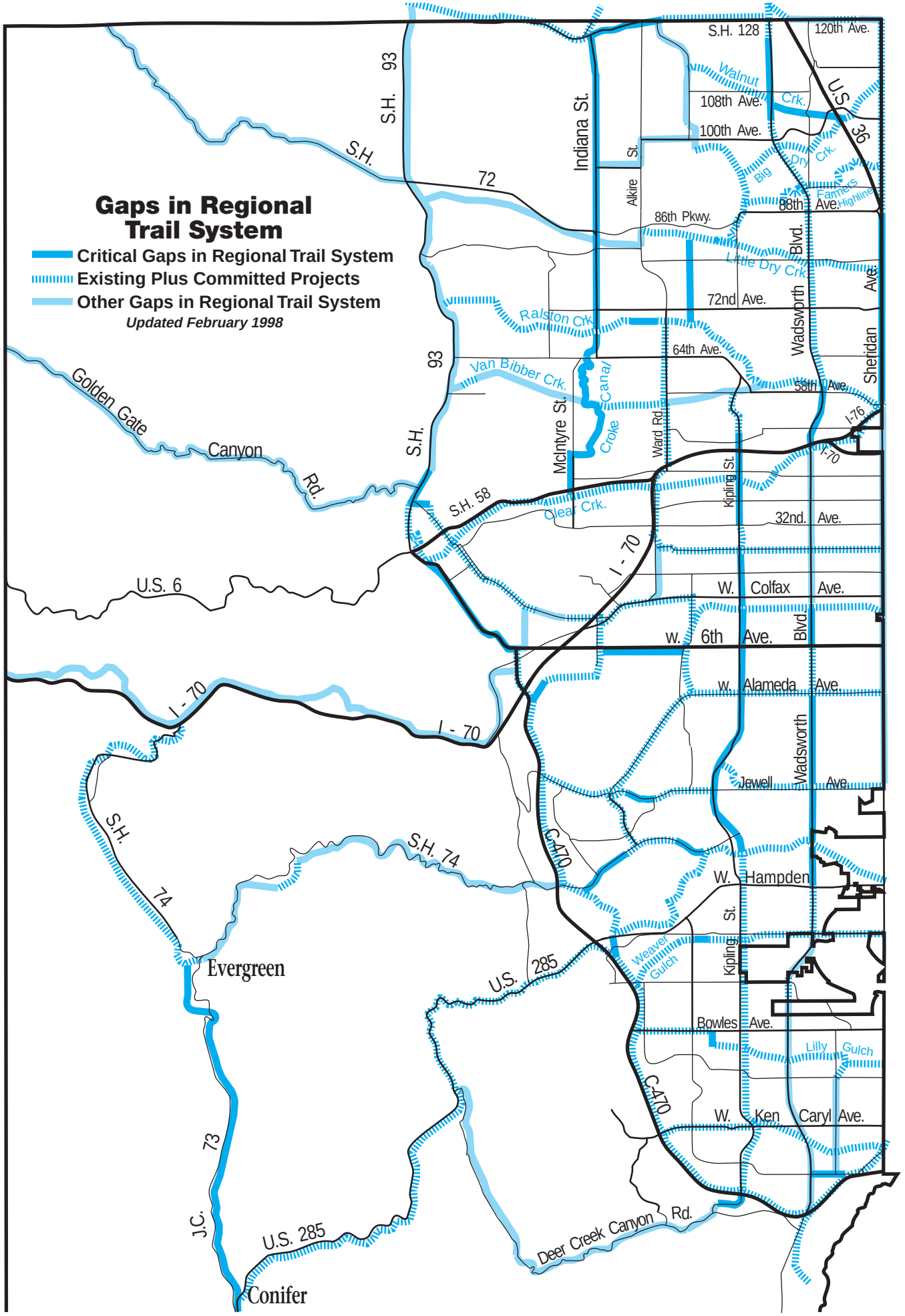
Little in the way of maintenance has been discussed for alternative modes of transportation. It is recommended that the cities and County evaluate how issues such as citizen concerns, regular maintenance and snow/sand removal are addressed. If deficiencies exist, appropriate departments would set up programs to meet the needs of people using alternative mode facilities

Right-of-Way

The inclusion of the acquisition of Right-of-Way (ROW) for the construction of safe and convenient pedestrian and bicycle facilities is needed when building new roadways. More ROW allows space for wider multi-use sidewalks and safer distances between cars and bicycles for on-street facilities

Funding

There should be coordinated efforts of cities and County to actively compete for alternative mode funding sources through DRCOG and CDOT


Gaps in Regional Trail System
Critical Gaps in Regional Trail System
Existing Plus Committed Projects
Other Gaps in Regional Trail System
Updated February 1998
S.H. 93
S.H. 72
Golden Gate Canyon Rd.
S.H. 58
U.S. 6
I - 70
S.H. 74
U.S. 285
J.C. 73
Evergreen
Conifer
Deer Creek Canyon Rd.
C-470
Indiana St.
Alkire St.
McIntyre St.
Ward Rd.
Kipling St.
Wadsworth Blvd.
Sheridan Ave.
S.H. 128
120th Ave.
108th Ave.
100th Ave.
88th Ave.
86th Pkwy.
72nd Ave.
64th Ave.
58th Ave.
32nd. Ave.
W. Colfax Ave.
W. 6th Ave.
W. Alameda Ave.
Jewell Ave.
W. Hampden
Bowles Ave.
W. Ken Caryl Ave.
U.S. 36
I-76
I-70
Walnut Crk.
Big Dry Crk.
Farmers Highline Canal
Little Dry Crk.
Ralston Crk.
Van Bibber Crk.
Croke Canal
Clear Crk.
Weaver Gulch
Lilly Gulch

Needs Based Transportation Plan

The **Needs Based Plan** combines all of the travel modes into one comprehensive transportation system. Several cornerstone elements define the concept of the Needs Based Plan.

The Needs Based Plan consists of Roadway projects, TCM programs, Bicycle and Pedestrian projects, Transit projects, in addition to RTD's future transit planning efforts, and Paratransit programs. A 2% share increase is anticipated to come from the regional transit planning efforts by RTD*. Supplemental transit in the form of increased bus service and additional park-n-Ride facilities would further increase the transit mode share to nearly three percent. TCM programs and increased use of alternate modes (bicycles and pedestrian), would capture the remaining four percent, to achieve the goal of the CWTP of a 7% modal split.

It is important that TCM and transit be integrated to achieve the desired modal shift of the Needs Based Plan. In order for a TCM program to advocate changes in travel behavior, an effective transit system must be in place.

Cornerstones of the Needs Based Plan

1. A shift away from Single Occupancy Vehicle use to result in 7% use of other modes of transportation through establishment of:
   - A Countywide Transportation Management Organization
   - Employer based Transportation Demand Management and Trip Reduction Programs
   - Arterial Street Management Programs
   - Countywide Transit Planning Process
2. Support of future planning efforts for transit
3. A commitment that individual jurisdictions will consult with each other prior to implementing transportation projects
4. Bicycle and pedestrian improvements will be incorporated into any major roadway improvement projects
5. Completion of key bicycle, pedestrian, and paratransit projects
6. A roadway network that:
   - Concentrates on principal arterial streets
   - Completes missing links or intersection/interchange movements
   - Optimizes the existing system by implementing Transportation System Management (TSM) and Corridor Management
7. Establishment of a process that provides for additional revenue sources and allows additional projects and programs to be added and prioritized when these funds are made available.

* Originally, the CWTP included the regional transit plan known as *"Guide the Ride"* that was defeated by the voters in 1997.

The Needs Based Plan's projects and programs provide for a system in the year 2015 that offers travel choices for Jefferson County citizens while limiting congestion on its roadways to approximately 1995 levels.

Proposed for the Roadway component of the Needs Based Plan are over 360 lane miles of widening, 82 lane miles of new roadway construction, and consideration for improvements at nearly 100 intersections and interchanges.

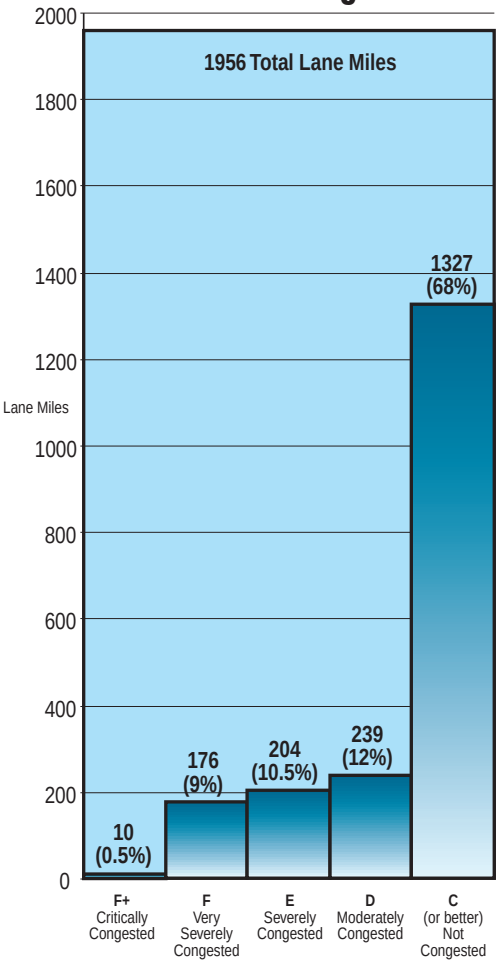
The congestion results of the 2015 Needs Based Plan are shown in the bar chart and map identified for "2015 Needs Based Plan Peak Hour Congestion." Sixty-eight percent of the system would be uncongested. Eighty percent of the system would meet the LOS D or better threshold.

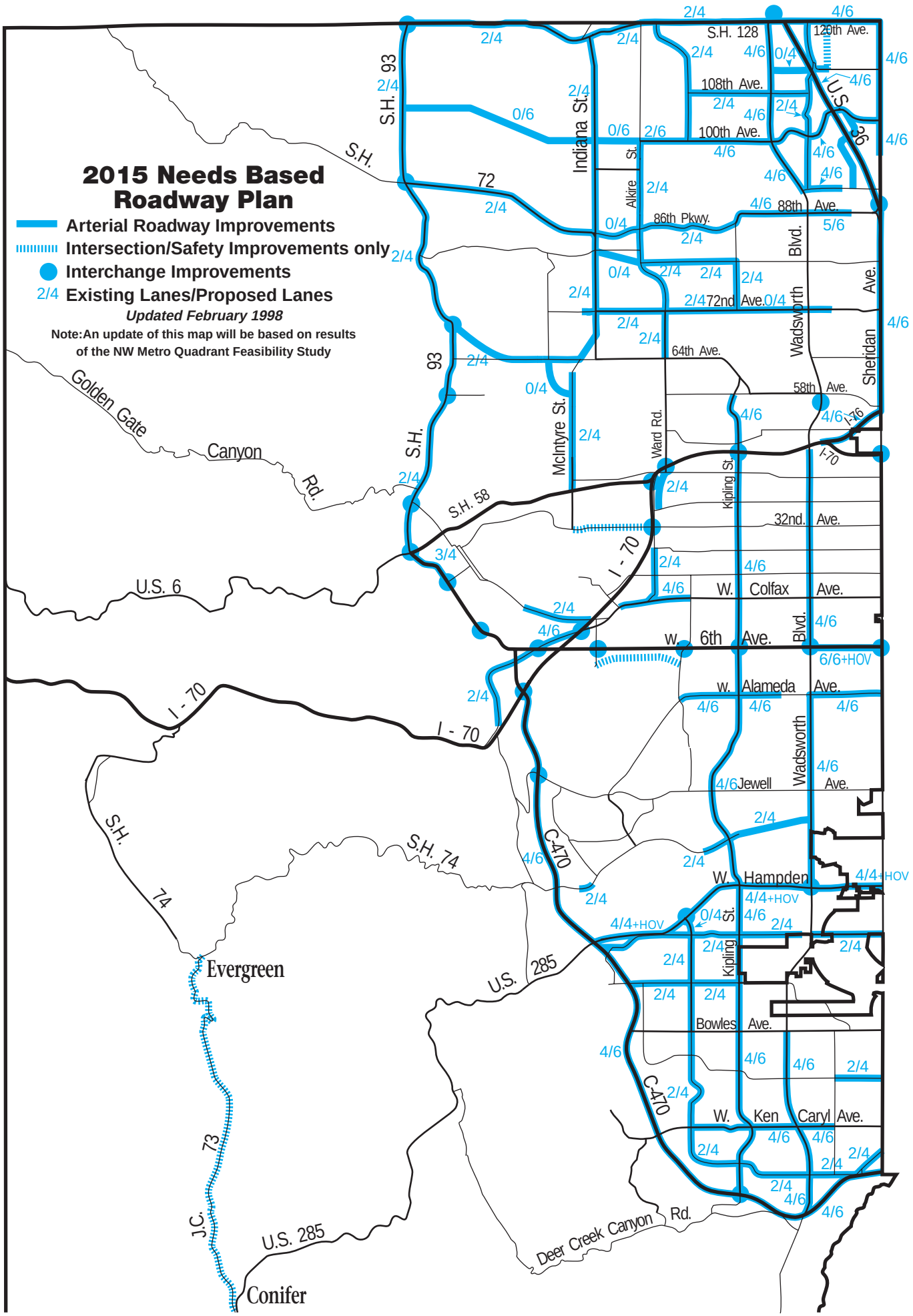
The Needs Based Plan's projects and programs provide for a system in the year 2015 that offers travel choices for Jefferson County citizens while limiting congestion on its roadways to approximately 1995 levels. Furthermore, as highlighted in the Goals Summary Table, the Needs Based Plan achieves the goals identified in the planning process. The Needs Based Plan is the vision for the future of the CWTP.

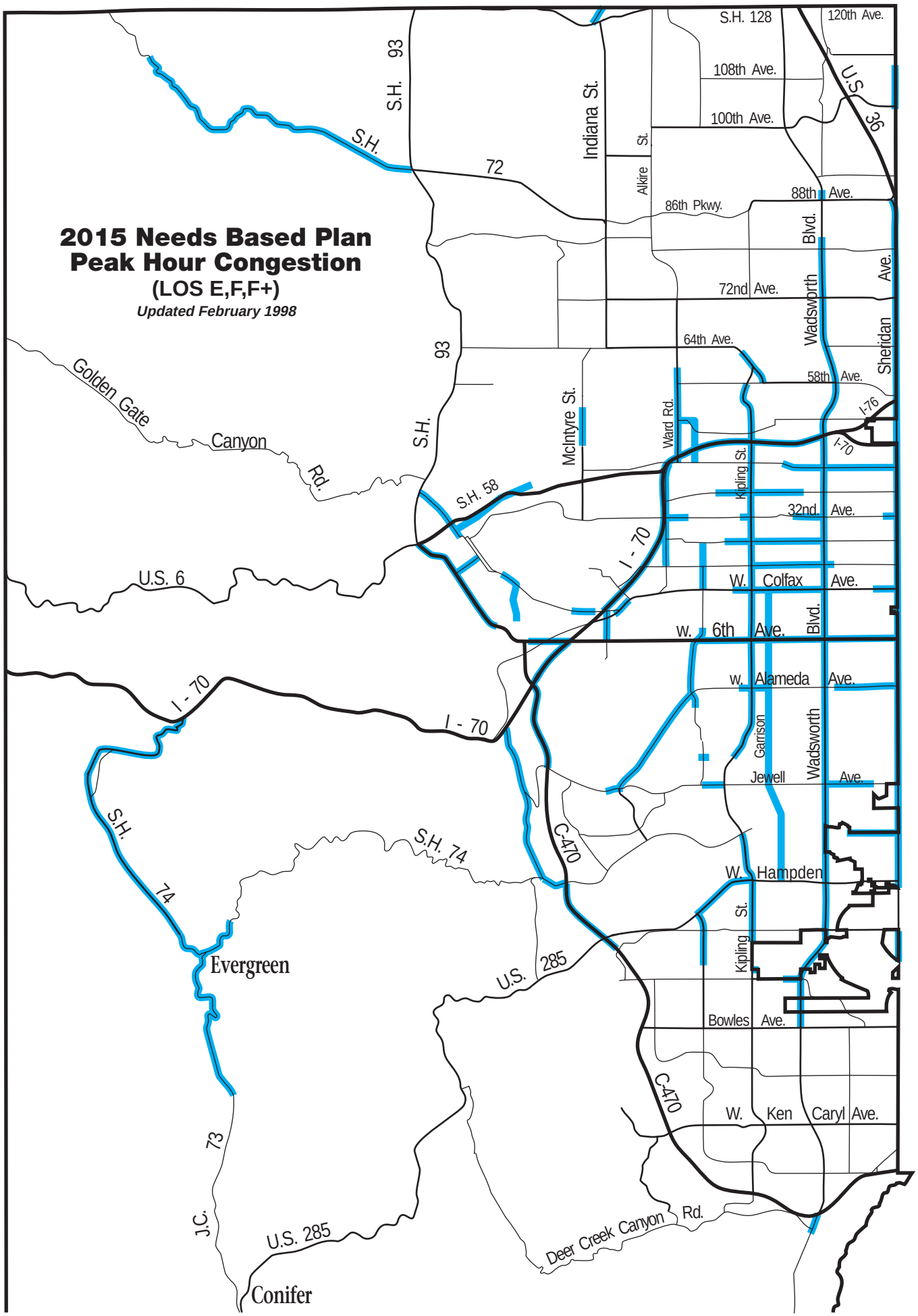
The Project Lists at the end of this document describe the individual projects and programs that are included in the Needs Based Plan. However, the cost of implementing this vision would be high. It would, in fact, far exceed forecasted revenues for the County and its five Cities.

The Policy Committee was not able to reach consensus on the need, the routing, or the design of the proposed Northwest Parkway. Many questions exist about this facility that should be answered in the forthcoming Northwest Metro Quadrant Study. No final recommendation on the parkway is included in this CWTP, but public input is certainly welcome and needed.

2015 Needs Based Plan Peak Hour Congestion




2015 Needs Based Roadway Plan
Arterial Roadway Improvements
Intersection/Safety Improvements only
Interchange Improvements
2/4 Existing Lanes/Proposed Lanes
Updated February 1998
Note: An update of this map will be based on results of the NW Metro Quadrant Feasibility Study
S.H. 93
S.H. 72
Golden Gate Canyon Rd.
S.H. 58
U.S. 6
I - 70
S.H. 74
Evergreen
U.S. 285
Conifer
J.C. 73
Deer Creek Canyon Rd.
C-470
Indiana St.
Alkire St.
McIntyre St.
Ward Rd.
Kipling St.
Wadsworth Blvd.
Sheridan Ave.
U.S. 36
S.H. 128
120th Ave.
108th Ave.
100th Ave.
86th Pkwy.
88th Ave.
72nd Ave.
64th Ave.
58th Ave.
32nd Ave.
W. Colfax Ave.
W. 6th Ave.
W. Alameda Ave.
Jewell Ave.
W. Hampden Ave.
Bowles Ave.
W. Ken Caryl Ave.


2015 Needs Based Plan
Peak Hour Congestion
(LOS E,F,F+)
Updated February 1998
S.H. 93
S.H. 72
Indiana St.
Alkire St.
S.H. 128
120th Ave.
108th Ave.
100th Ave.
U.S. 36
86th Pkwy.
88th Ave.
Wadsworth Blvd.
72nd Ave.
64th Ave.
58th Ave.
Sheridan Ave.
I-76
I-70
Golden Gate Canyon Rd.
S.H. 93
McIntyre St.
Ward Rd.
Kipling St.
S.H. 58
32nd. Ave.
I - 70
U.S. 6
W. Colfax Ave.
w. 6th Ave. Blvd.
w. Alameda Ave.
I - 70
I - 70
Garrison
Wadsworth
Jewell Ave.
S.H. 74
C-470
W. Hampden
Kipling St.
S.H. 74
Evergreen
U.S. 285
Bowles Ave.
C-470
W. Ken Caryl Ave.
73
J.C.
U.S. 285
Deer Creek Canyon Rd.
Conifer

Fiscally Constrained Plan

Revenue Forecasts and Prioritization

Forecast Revenues 2003-2015
(in millions)
Jefferson County, Colorado

Funds	Total
Federal	$113
State	$68
Local	$166
Total	**$347**

If historic transportation funding patterns were continued, it is estimated that approximately $347 million would be available for transportation projects across Jefferson County from the year 2003 through the year 2015. This would not be sufficient to fund all of the projects and programs identified in the Needs Based Plan.

To identify highest priority projects which should be included on the Fiscally Constrained Plan, a three-step approach was used.

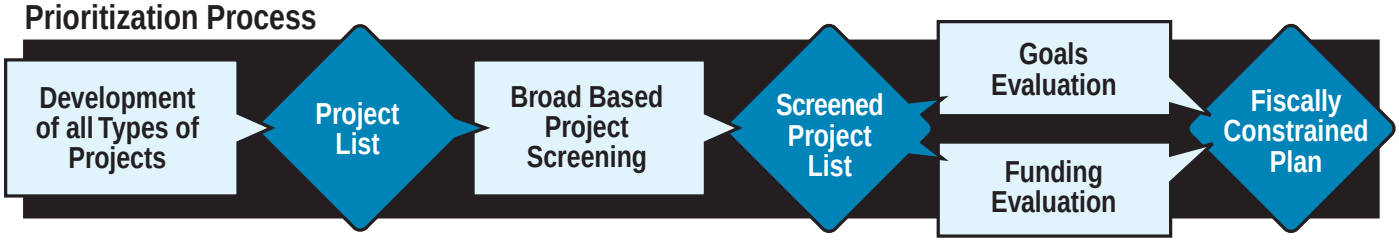
First, all projects were screened based on the goals of the plan and those projects evaluated as high or medium priority were selected by individual mode.

Second, detailed information was compiled on each of the high and medium level projects and those projects were evaluated and rated in terms of the goals and evaluation criteria.

Third, a spending exercise was conducted to determine where each community would choose to spend its share of the forecast financial resources.

From these analyses, those highest priority projects capable of being funded with the forecasted available resources were included in the Fiscally Constrained Plan. The Fiscally Constrained Plan included all of the TCM projects that were proposed in the Needs Based Plan, support for future regional transit plans, and "critical gap" bicycle/pedestrian projects, as well as those roadway projects shown in the 2015 Fiscally Constrained Roadway Plan map. These roadway improvements represent over 131 lane miles, or about 30 percent of those proposed in the Needs Based Plan.

Prioritization Process



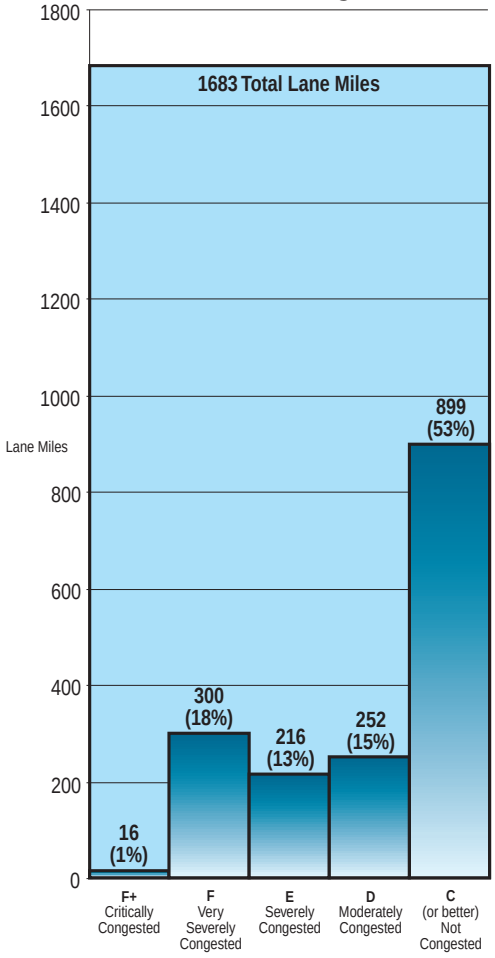
This set of projects and programs was then analyzed. Levels of congestion were determined for the Fiscally Constrained Plan. Since the *1997 "Guide the Ride"* measure failed, and both committees elected not to fund the supplemental transit service, a 5 percent modal shift was assumed. Over 53 percent of the system operates at LOS C or better, and 68 percent of the system at LOS D or better.

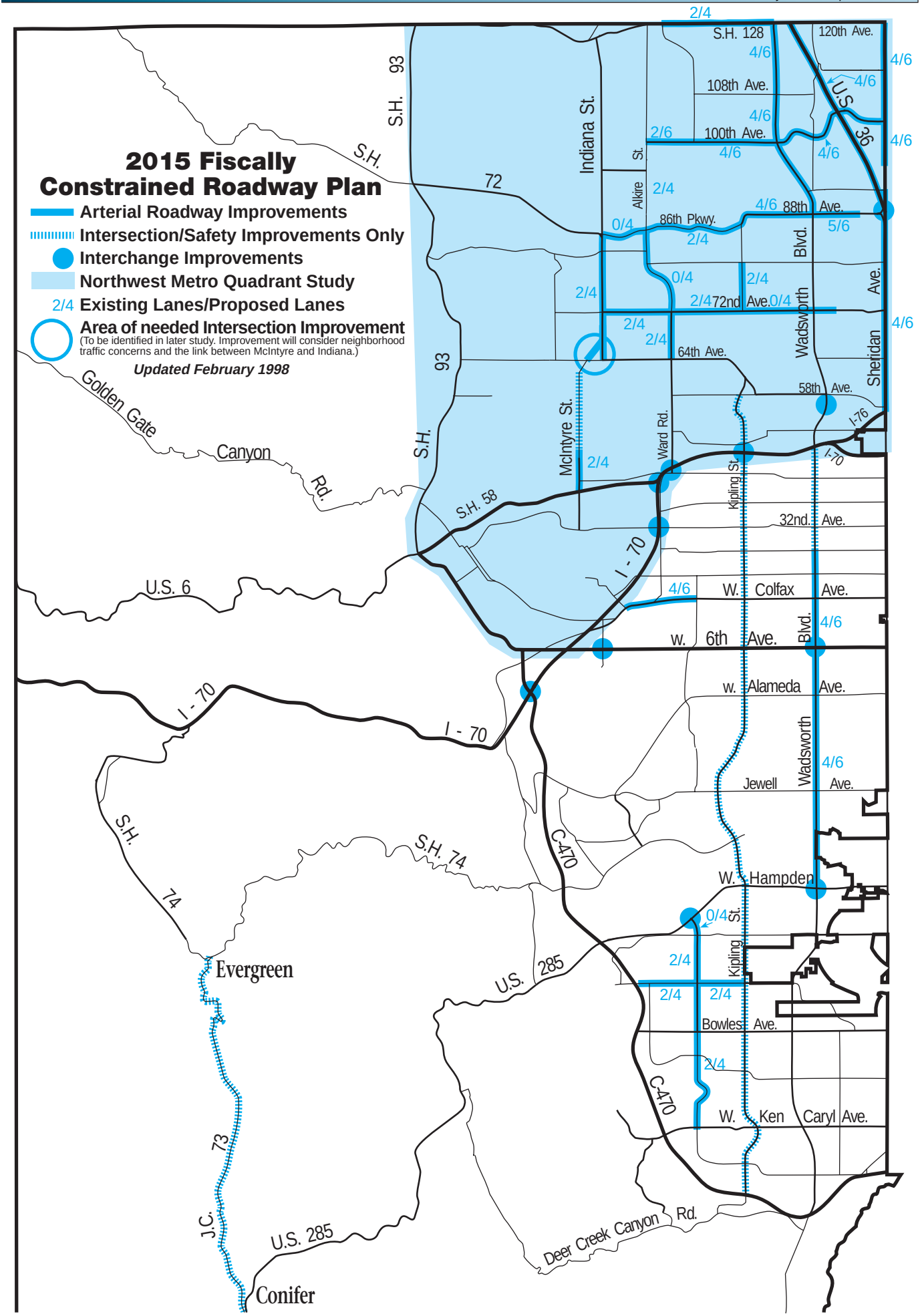
The process for developing the "Fiscally Constrained Project List" was a tool intended to identify projects with a higher priority in terms of addressing countywide transportation needs. Inclusion on this list, however, does not guarantee that a specific project will be built. Placement on the list indicates that, as a group, the jurisdictions in Jefferson County recognize the importance of the project and support efforts to fund construction. However, since requests for state or federal funding for many of those projects are evaluated on a regional basis, there is no guarantee that any specific project will be funded. In addition, all projects require at least some local funding which may not always be available.

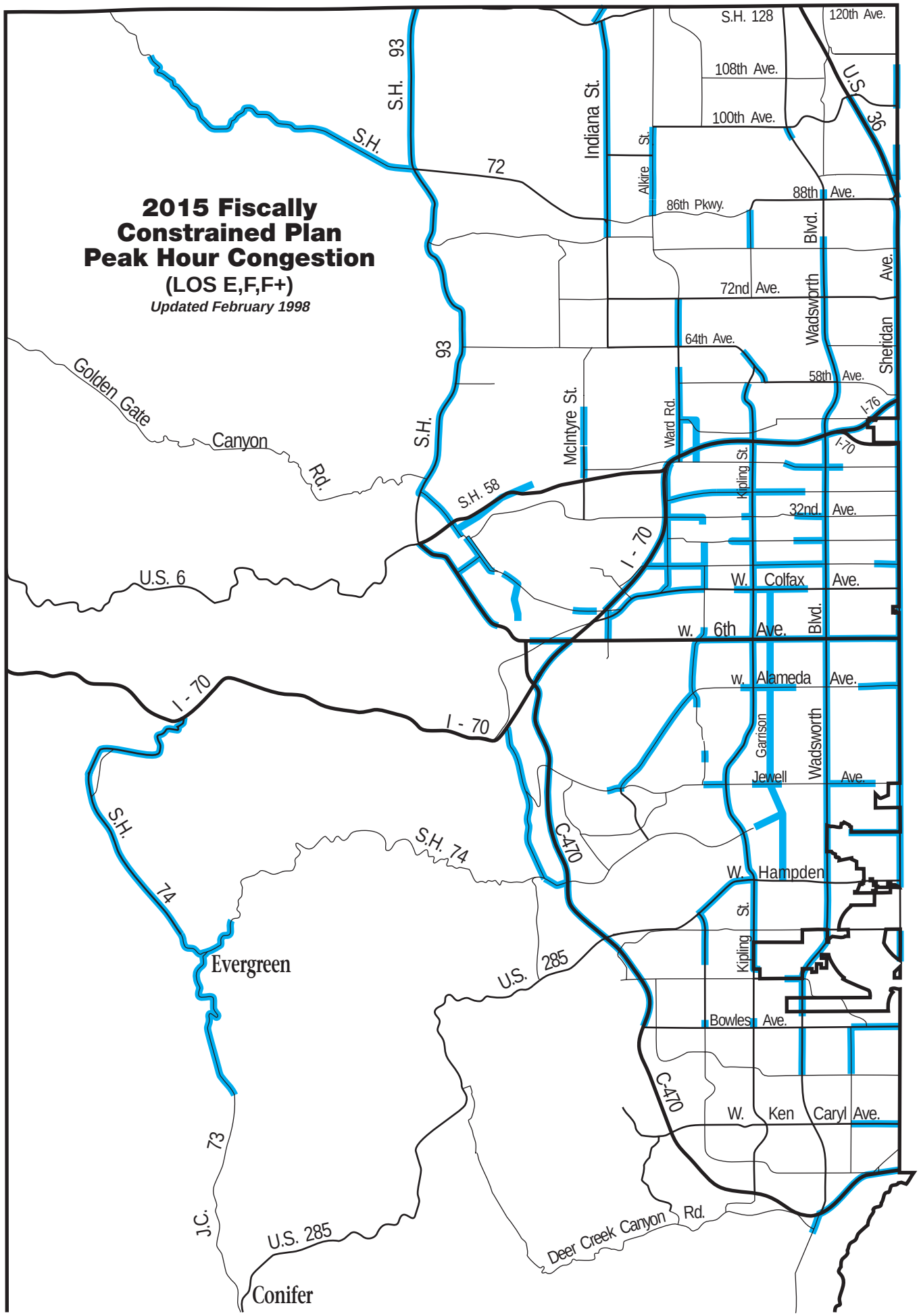
Since the Fiscally Constrained Project List is a priority list rather than a firm funding commitment, it is likely that the list would be revisited periodically to update those projects which have been constructed, as well as changes in priority.

The Fiscally Constrained Project List is a priority list rather than a firm funding commitment, and will likely be updated periodically.

2015 Fiscally Constrained Plan Peak Hour Congestion




2015 Fiscally Constrained Roadway Plan
Arterial Roadway Improvements
Intersection/Safety Improvements Only
Interchange Improvements
Northwest Metro Quadrant Study
2/4 Existing Lanes/Proposed Lanes
Area of needed Intersection Improvement
(To be identified in later study. Improvement will consider neighborhood traffic concerns and the link between McIntyre and Indiana.)
Updated February 1998
S.H. 93
S.H. 72
Golden Gate Canyon Rd.
S.H. 58
U.S. 6
I - 70
S.H. 74
U.S. 285
J.C. 73
Evergreen
Conifer
Deer Creek Canyon Rd.
C-470
Indiana St.
McIntyre St.
Ward Rd.
Kipling St.
Wadsworth Blvd.
Sheridan Ave.
Alkire St.
S.H. 128
120th Ave.
108th Ave.
100th Ave.
88th Ave.
86th Pkwy.
72nd Ave.
64th Ave.
58th Ave.
32nd Ave.
W. Colfax Ave.
w. 6th Ave.
w. Alameda Ave.
Jewell Ave.
W. Hampden
Bowles Ave.
W. Ken Caryl Ave.
U.S. 36
I-76
I-70


2015 Fiscally Constrained Plan Peak Hour Congestion
(LOS E,F,F+)
Updated February 1998
S.H. 93
S.H. 72
S.H. 93
S.H. 58
S.H. 74
S.H. 74
U.S. 6
I - 70
I - 70
I - 70
U.S. 285
U.S. 285
U.S. 36
C-470
C-470
I-76
I-70
Golden Gate Canyon Rd.
Indiana St.
Alkire St.
McIntyre St.
Ward Rd.
Kipling St.
Wadsworth Blvd.
Sheridan Ave.
Garrison St.
Kipling St.
S.H. 128
120th Ave.
108th Ave.
100th Ave.
88th Ave.
86th Pkwy.
72nd Ave.
64th Ave.
58th Ave.
32nd. Ave.
W. Colfax Ave.
W. 6th Ave.
W. Alameda Ave.
W. Jewell Ave.
W. Hampden Ave.
Bowles Ave.
W. Ken Caryl Ave.
Deer Creek Canyon Rd.
Evergreen
Conifer
J.C. 73

Goal Summary Table

How Does The CWTP Meet The Goals?

	GOAL: Identify and address deficiencies in our transportation system.	**GOAL:** Provide a coordinated system that integrates all modes of transportation (motor vehicles, transit, bicycle, pedestrian).	**GOAL:** Provide for, and improve the mobility of those who have special needs or are dependent on public or specialized transportation.	**GOAL:** Encourage Jefferson County and its cities to work together to provide consistent plans and maximize influence on the regional transportation planning process.	**GOAL:** Mitigate the impact of transportation on the environment and our communities.	**GOAL:** Encourage economic vitality.
The Needs Based Plan	The Needs Based Plan would maintain traffic congestion levels at 1995 levels or better. 80% of the system is projected to operate at acceptable levels of service. The Needs Based Plan provides for additional transit to address current deficiencies. The Needs Based Plan provides for additional paratransit, bicycle, and pedestrian facilities to address deficiencies.	A shift away from SOV, resulting in a 7% modal split for the Needs Based Plan.	There is a commitment to support additional transit service to increase public transportation availability for those with special needs. There is a commitment to provide additional paratransit service.	This planning process involved consensus building with the Technical and Policy Committees representing the County and its cities. A cornerstone of the plan is the promise that "individual jurisdictions will consult with each other prior to implementing transportation projects".	There will be improvement in congestion and mobility through the plan's TCM commitments, resulting in 80% of the roadway system meeting or exceeding LOS goals for the Needs Based Plan. The planning process included individual project "checks" of environmental issues in development of project lists.	The Needs Based Plan was based on acceptance of land use scenarios from the individual cities and County planning departments. Improvement to key arterials support commercial areas of the County. Support of future regional transit planning efforts and supplemental transit offers choices for transportation to major activity and employment centers.
The Fiscally Constrained Plan	The Fiscally Constrained Plan provides for nearly 68% of the system operating at acceptable levels. The Fiscally Constrained Plan provides for additional transit to address deficiencies. The Plan provides for additional paratransit, bicycle, and pedestrian facilities to address deficiencies.	A shift away from SOV use, resulting in a 5% modal split for the Fiscally Constrained Plan. $9.4 million to non-roadway projects.	There is a commitment to support increased public transportation availability for those with special needs. There is a commitment to provide additional paratransit service.	This planning process involved consensus building with the Technical and Policy Committees representing the County and its cities in developing the Fiscally Constrained Plan. A cornerstone of the plan is the promise that "individual jurisdictions will consult with each other prior to implementing transportation projects".	There will be improvement in congestion and mobility through the plan's TCM commitments, resulting in 68% of the system meeting or exceeding LOS goals for the Fiscally Constrained Plan. The planning process included Individual project "checks" of environmental issues in development of Project Information Matrix. The plan represents a countywide perspective.	The Fiscally Constrained Plan was based on acceptance of Land Use Scenarios from the individual cities and County planning departments. Improvements to key arterials support commercial areas of the County. Support of future regional transit planning efforts to provide choices for transportation to major activity and employment centers.

Implementation

The Case For The Countywide Plan

In today's world, with mobility needs at an all time high and limited funds available for transportation improvements, it is increasingly important that Jefferson County and it's communities work together to provide the best transportation system possible.

The Countywide Transportation Plan sets a broad vision with important goals for the County. In analyzing the current transportation system and its ability to meet those goals, and in looking at alternatives for the future transportation system, several key findings emerge:

1. It is not possible to fully meet the transportation needs of the County in the future by expansion of the roadway system alone.

2. The greatest opportunity for the County to meet its needs lies in developing a true multi-modal system with roadways, transit, bicycle/pedestrian facilities, paratransit systems, and transportation congestion management programs each playing an important part.

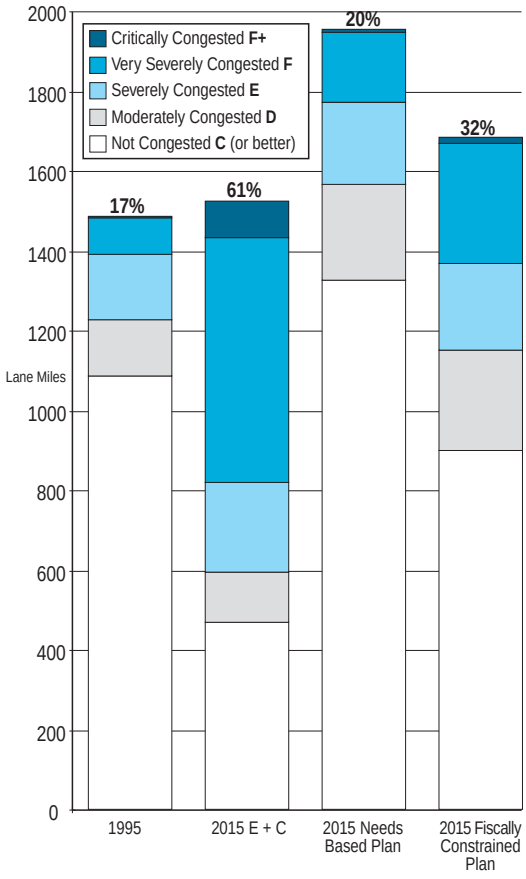
3. The foundation for this multi-modal system is a strong network of roadways, which not only carry automobile traffic, but serve as the network for transit, paratransit, and bicycle/pedestrian systems. Therefore, major roadway improvements are a key ingredient of the plan.

4. Continue to work with RTD's regional transit planning efforts to meet the plan's goal of a 2% modal shift. Light rail and commuter rail are two regional transit alternatives for the County.

Historically, the County and its communities have worked independently on transportation projects, despite the facts that transportation systems pass through more than just one jurisdiction within the County, and coordination and mutual support provide increased opportunity for successful implementation of plans. The CWTP emphasizes the need and opportunity to work together, coordinating activities and proposed improvements in a systematic and mutually supportive program.

The Countywide Transportation Plan provides a realistic yet visionary program for meeting the transportation needs of the County. Yet this plan is not the end, it is only the beginning. It sets the stage and the framework for all jurisdictions in the County to begin the process of planning for the future. The plan simply helps us to understand the many factors at play, and to better react to the opportunities and unplanned changes that cannot be avoided in our modern world.

Peak Hour Congestion Comparison



The Next Steps

This CWTP represents an important beginning for coordination and collaboration between Jefferson County and its communities. The CWTP is premised on the proposition that by working together for the overall good, more can be achieved for all.

For the Fiscally Constrained Plan:

- Investigate methods of conveying support for future regional transit plans to constituents.
- Institute an ongoing coordination process for identifying and recommending projects to be included on the Transportation Improvement Program (TIP) (a 6 year federal funding program updated every 2 years and implemented by DRCOG) for the Denver metro area. For example, the representative Tec hnical Committee structure that was put in place for this planning process could be continued. The Committee would meet prior to the DRCOG's TIP application process to prepare a recommendation to policy makers on projects to be included in the TIP submittal.

This plan is not the end, it is only the beginning. It sets the stage and the framework for all jurisdictions in the County to begin the process of planning for the future.

- Submit to DRCOG, as a countywide recommendation, projects for inclusion on the TIP submittal.
- Consult and coordinate on projects which may involve other jurisdictions. Collaborate in local funding to complete studies and designs of key projects, such as interchanges, to further them along in the process.
- Develop action plans that include methodology, timing, and a program for implementing planning elements including creation of a public/private countywide Transportation Management Organization (TMO), creation of an employer based trip reduction plan, implementation of an arterial street management program, initiation of trip reduction programs, and preparation of a countywide transit plan. These action plans should also include mechanisms for measuring and reporting results.
- Seek possible financial assistance for planning elements.
- Investigate and recommend, where appropriate, the use of revenue enhancements.
- Develop and agree on a methodology for moving projects from the Needs Based Plan to implementation as enhancement funds become available.
- Incorporate policy recommendations into the development review process of each jurisdiction. These recommendations would include accessible site design and programming of bicycle improvements, together with road improvements.
- Coordinate bicycle/pedestrian plans with open space and park and recreation agencies/departments.

For the Needs Based Transportation Plan:

- Provide for periodic evaluation and monitoring of the Needs Based Plan.
- Provide for regular updating of the Needs Based Plan.
- Provide for updating of the Fiscally Constrained Plan.

Project List

Project Name	Costs in Thousands	Project Limits	Proposed Improvement	Fiscally Constrained Plan
Roadway Improvements				
Sheridan Blvd	$4,500	I-76 to 87th Ave	Widen from 4 lanes to 6 lanes	x
	$4,500	87th Ave to 91st Ave	Widen from 4 lanes to 6 lanes	x
	$3,500 - $4,500	94th Ave to 120th Ave	Widen from 4 lanes to 6 lanes	x
Platte Canyon	$2,000 - $4,000	C-470 to County line	Widen from 2 lanes to 4 lanes	
Harlan/Westminster Blvd/Pierce	$14,000	92nd Ave to 104th Ave	Construct New 4 lane	
	$1,000	112th Ave to 116th Ave	Widen from 2 lanes to 4 lanes	
	$500	116th Ave to 120th Ave	Minor improvements (accel/decel/medians)	
Old Wadsworth	$5,500	92nd to 108th	Widen from 2 lanes to 4 lanes	
	$2,500 - $4,000	108th to 112th	Widen from 2 lanes to 4 lanes	
	$2,000	112th to 120th	Widen from 2 lanes to 4 lanes	
	$500	116th Ave to 120th Ave	Minor improvements (accel/decel/medians)	
Wadsworth Blvd	$3,000 - $6,000	C-470 to Bowles	Widen from 4 lanes to 6 lanes	
	$18,000 - $36,000	Hampden to 26th Avenue	Widen from 4 lanes to 6 lanes	x
	$8,000 - $12,000	26th Avenue to I-70	Major Capacity Improvements *	x
	$3,000 - $6,000	92nd Ave to 120th	Widen from 4 lanes to 6 lanes	x
Kipling	$8,000 - $12,000	C-470 to Bowles	Widen from 4 lanes to 6 lanes	
	$3,000 - $13,000	Bowles to Hampden	Widen from 4 lanes to 6 lanes	
	$10,000 - $15,000	Hampden to US 6	Widen from 4 lanes to 6 lanes	
	$15,000 - $25,000	US 6 to I-70	Widen from 4 lanes to 6 lanes	
	$3,000 - $6,000	I70 to 58th Ave	Widen from 4 lanes to 6 lanes	
	$3,000 - $6,000	72nd to 80th	Widen from 2 lanes to 4 lanes	
	$500 - $2,000 per int.	C-470 to I-70	Intersection Improvements	x
Simms	$3,000 - $5,000	Ken Caryl to Coal Mine	Widen from 2 lanes to 4 lanes	x
	$1,000	Coal Mine to Belleview	Widen from 2 lanes to 4 lanes	x
	$1,000 - $2,000	Belleview to Quincy	Widen from 2 lanes to 4 lanes	x
	$3,000	Quincy to Hampden	Construct 4 lanes	x
	$5,000	100th to 120th	Widen from 2 lanes to 4 lanes	
Ward/Alkire	$3,000 - $6,000	64th to 72nd	Widen from 2 lanes to 4 lanes	x
	$15,000 - $20,000	72nd to Alkire/86th	Construct new 4 lane connector.	x
			Widen Alkire from 2 to 4 lanes	
	$6,000	86th to 100th	Widen from 2 lanes to 4 lanes	
Indiana	$8,000 - $13,000	64th to SH 72	Widen from 2 lanes to 4 lanes	x
	$8,000 - $12,000	SH 72 to 120th	Widen from 2 lanes to 4 lanes	
Quaker	$3,000 - $5,000	64th to McIntyre/58th	Construct 4 lane connector	
Youngfield	$2,000 - $5,000	Colfax to 26th	Widen from 2 lanes to 4 lanes	
	$1,500 - $4,000	38th to 44th	Widen from 2 lanes to 4 lanes	
McIntyre	$3,000 - $8,000	SH 58 to 62nd Ave	Widen from 2 lanes to 4 lanes	
	$1,000 - $3,000	SH 58 to 50th	Widen from 2 lanes to 4 lanes	x
	$500 - $2,000 each	50th to 62nd	Targeted Spot Improvements	x
	$2,500 - $5,000	64th to Indiana @ 68th	Construct new 4 lane connector	

See *Fisc. Const Rdwy Plan* Map

Note: See page 36 for Projects Cost Methodology.

*** Wadsworth Capacity Improvements**

Wadsworth Boulevard between 26th Avenue and I-70 has been identified as a "very severely congested" corridor by 2015 if nothing is done. Significant capacity improvements are needed to relieve this anticipated congestion. This segment is characterized by shallow lots with mixed land uses which make widening projects very difficult. Therefore, prior to adding additional through lanes, other approaches to increasing capacity will be examined first including, but not limited to, cross access, shared access agreements, state of the art congestion management, adding auxiliary lanes, and improving transit service.

Improvements would not have to be made in a single large project, but rather could be a series of incremental improvements as opportunities present themselves. Wheat Ridge will make the decision as to the timing and selection of implementing capacity increasing approaches outlined above. In the event that neighboring jurisdictions chose different approaches, appropriate transitions will be coordinated to minimize disruption and provide continuity of traffic flow.

Project Name	Costs in Thousands	Project Limits	Proposed Improvement	Fiscally Constrained Plan
Roadway Improvements				
SH 93		US 6 to SH 128	See "Northwest Metro Quadrant Study" project	
Northwest Metro Quadrant Study		Northwest Quadrant	To Be Determined by Feasibility Study	x
Golden Road	$4,000 - $10,000	Indiana to Ulysses	Widen from 2 lanes to 4 lanes	
US 6	$2,500 - $3,000	Indiana to Simms	Improve Frontage Roads	
	$500	19th to SH 58	Widen from 2/3 lanes to 4 lanes	x
	$10,000 +	Wadsworth to Sheridan	HOV lanes & safety improvements	
C-470	$10,000 - $15,000	County line to Ken Caryl	Widen from 4 lanes to 6 lanes	
	$10,000 - $15,000	Ken Caryl to Hampden	Widen from 4 lanes to 6 lanes	
	$10,000 - $15,000	Hampden to I-70	Widen from 4 lanes to 6 lanes	
Chatfield	$3,000 - $5,000	Platte Canyon to Kipling	Widen from 2 lanes to 4 lanes	
	$1,000 - $2,000	Kipling to Ken Caryl	Widen from 2 lanes to 4 lanes	
Ken Caryl	$3,000 - $6,000	Pierce to Wadsworth	Widen from 4 lanes to 6 lanes	
	$4,000 - $7,000	Wadsworth to Kipling	Widen from 4 lanes to 6 lanes	
	$500 - $3,000	Cont. Div. To Simms	Widen from 4 lanes to 6 lanes	
Coal Mine	$2,000 - $4,000	County line to Kendall	Widen from 2 lanes to 4 lanes	
	$500 - $1,000	Kendall to Pierce	Widen from 2 lanes to 4 lanes	
Belleview	$2,000 - $4,000	Kipling to Simms	Widen from 2 lanes to 4 lanes	x
	$1,000 - $5,000	Simms to Alkire	Widen from 2 lanes to 4 lanes	x
	$500 - $1,000	Alkire to C-470	Widen from 2 lanes to 4 lanes	x
Quincy	$4,000 - $6,000	Sheridan to Wadsworth	Widen from 2 lanes to 4 lanes	
	$3,000 - $5,000	Wadsworth to C-470	Widen from 2 lanes to 4 lanes	
Hampden (US 285)	$25,000 +	Santa Fe to Sheridan	CDOT's widening should include HOV lanes	
	$25,000 +	Sheridan to Kipling	include HOV lanes	
	$5,000 - $10,000	Kipling to C-470	include HOV lanes	
Morrison /Bear Creek Rd	$4,000 - $6,000	Wadsworth to Kipling	Widen from 2 lanes to 4 lanes	
	$500	Kipling to Owens Oak	Widen from 2 lanes to 4 lanes	
	$500 - $1,500	McIntyre to C-470	Widen from 2 lanes to 4 lanes	
Alameda	$1,000 - $2,000	Sheridan to Wadsworth	Widen from 4 lanes to 6 lanes	
	$2,000 - $4,000	Estes to Simms/Union	Widen from 4 lanes to 6 lanes	
Colfax	$4,000 - $6,000	Simms to Eldridge	Widen from 4 lanes to 6 lanes	x
	$3,500 - $5,000	I-70 to US 6	Widen from 4 lanes to 6 lanes	
	$1,000 - $3,000	US6 to Heritage Rd	Widen from 2+ lanes to 4 lanes	
	$1,000 - $4,000	Heritage Road to I-70	Widen from 2+ lanes to 4 lanes	
32nd Avenue	$500 - $2,000 each	I-70 to McIntyre	Targeted Spot Improvements	
64th Ave	$1,500 - $3,000	Kendrick to Easley	Widen from 2 lanes to 4 lanes	
	$7,000 - $8,000	Easley to SH 93	Widen/construct/realign as 4 lane	
72nd Avenue	$14,000	Pierce to Kipling	Construct 4 lanes	x
	$10,000	Kipling to Indiana	Widen from 2 lanes to 4 lanes	x
	$3,000	Indiana to McIntyre	Widen from 2 lanes to 4 lanes	
80th/82nd Avenues	$4,000 - $8,000	Kipling to Alkire	Reconstruct/Widen to 4 lanes	
	$4,000 - $6,000	Alkire to Indiana	Construct new 4 lane connector	
88th/86th Avenues/SH 72	$3,000 - $5,000	Harlan to Wadsworth	Widen from 4/5 lanes to 6 lanes	x
	$1,500 - $3,000	Wadsworth to Garrison	Widen from 4 lanes to 6 lanes	x
	$250 - $500	Garrison to Independence	Widen from 4 lanes to 6 lanes	x
	$1,000 - $2,000	Independence to Kipling	Widen from 2 lanes to 4 lanes	x
	$2,000 - $4,000	Kipling to Alkire	Widen from 2 lanes to 4 lanes	x
	$2,000 - $4,000	Alkire to Indiana	Construct 4 lanes	x
	$6,000 - $10,000	Indiana to SH 93	Widen from 2 lanes to 4 lanes	

Note: See page 36 for Projects Cost Methodology.

Project Name	Costs in Thousands	Project Limits	Proposed Improvement	Fiscally Constrained Plan
Roadway Improvements				
92nd Avenue	$3,500 - $5,000	Marshall to Wadsworth	Widen from 4 lanes to 6 lanes	
100th Ave/104th Ave/Church Ranch	$5,000 - $7,000	Sheridan to Wadsworth	Widen from 4 lanes to 6 lanes	x
	$6,000 - $8,000	Wadsworth to Alkire	Widen from 2, 3 or 4 lanes to 6 lanes	x
	$20,000 - $35,000	Alkire to SH93	Construct 6 lanes	
108th Avenue	$1,500 - $2,500	Old Wadsworth to Wadsworth	Widen from 2 lanes to 4 lanes	
	$2,000 - $3,000	Wadsworth to Simms	Widen from 2 lanes to 4 lanes	
112th Avenue	$6,000 - $9,000	Pierce to Old Wadsworth	Widen from 2 lanes to 4 lanes	
		Old Wadsworth to Wadsworth	Construct 4 lanes	
SH128	$3,000 - $5,000	Simms to Wadsworth	Widen from 2 lanes to 4 lanes	x
		SH-93 to Simms	See "Northwest Metro Quadrant Study" project	
US 36	$20,000 +	Sheridan to Wadsworth	Widen from 4 lanes to 6 lanes	x
I-76	$10,000 +	I-70 to Sheridan	Widen from 4 lanes to 6 lanes	
JC73	$4,000 - $15,000	SH74 to US285	Add passing and turn lanes	x
Interchanges/Intersections				
JC73/SH74 intersection	$500 - $1,000		To be determined	
C470/Kipling	$1,000 - $3,000		Lengthen accel/decel lanes	
C470/Alameda	$4,000 - $6,000		Add ramps to existing overpass	
C470/I-70 (Phase 2)	$13,000		Add EB-NB and SB-WB ramps	x
US 285/Wadsworth	$10,000		To be determined in field and with further study	x
US285/Simms	$15,000		Construct full interchange	x
I70/SH58	$30,000		Add EB SH58 to WB I70; Add EB I70 to WB SH58	x
I/70/Ward Rd	included in I 70/SH 58		Considered as part of I70/SH58	x
I70/Sheridan			To be determined in field and with further study	
I70/Kipling	$4,000 - $8,000		Reconfigure ramps (Determined in field and with further study)	x
I70/32nd/Youngfield	$4,000 - $8,000		Rebuild I70 overpass (double left turns)	x
US6/Sheridan			Consider in conjunction with Wadsworth. (proximity issues)	
US6/Wadsworth	$8,000		To be determined in field and with further study	x
US6/Garrison/Carr/Frontage Road			Consider in conjunction with Wadsworth and Kipling interchanges	
US6/Kipling			To be determined in field and with further study	
US6/Simms/Union			To be determined in field and with further study	
US6/Colfax			Study to determine feasibility of eliminating skewed at-grade signalized intersection	
US6/Jefferson County Parkway			Feasibility Study to determine	
US6/19th St.			Feasibility Study to determine	
US6/Indiana	$5,000		City of Lakewood is investigating alternatives in conjunction with development and City of Golden	x
US121/BNRR tracks	$5,000 - $10,000	near Grandview	Construct grade separations	x
US36/Sheridan/92nd	$6,500		Reconfigure ramps	x
US36/Wadsworth			Reconstruct Interchange	
SH93/SH58/US6			See "Northwest Metro Quadrant Study" project	
SH93/Washington (Golden Gate)			See "Northwest Metro Quadrant Study" project	
SH93/ 58th			See "Northwest Metro Quadrant Study" project	
SH93/64th			See "Northwest Metro Quadrant Study" project	
SH93/SH72			See "Northwest Metro Quadrant Study" project	
SH93/SH128			See "Northwest Metro Quadrant Study" project	
Sheridan			Addition of turn lanes at major signalized intersections	

Note: See page 36 for Projects Cost Methodology.

Project Name	Costs in Thousands	Project Limits	Proposed Improvement	Fiscally Constrained Plan
Interchanges/Intersections				
Old Wadsworth			(same as above)	
Wadsworth	$500 - $2,000 each		(same as above)	x
Kipling	$500 - $2,000 each		(same as above)	x
Simms/Union			(same as above)	
Ward/Alkire			(same as above)	
Indiana			(same as above)	
Youngfield			(same as above)	
McIntyre			(same as above)	
Chatfield			(same as above)	
Ken Caryl			(same as above)	
Bowles			(same as above)	
Belleview			(same as above)	
Quincy			(same as above)	
Morrison			(same as above)	
Alameda			(same as above)	
Colfax			(same as above)	
32nd			(same as above)	
Ralston/64th			(same as above)	
72nd			(same as above)	
80th/82nd			(same as above)	
86th/88th			(same as above)	
92nd			(same as above)	
104th			(same as above)	
108th			(same as above)	
112th			(same as above)	
Signalization Upgrades	15 - 100 each int.		Provide traffic signal upgrades and enhancements	
Transit				
Rapid Transit		West Corridor Light Rail US36 Major Investment Study (MIS) Gold Line Commuter Rail		
Alternative Service Program		Community-based service designed to meet local transit needs that are not met with RTD's traditional fixed-route bus service		
Park-n-Ride	Expansions	Bergen Park, Broomfield, Westminster Center, Cold Spring, Pine Junction, Green Valley @ US285, Boyd's Crossing		
	New	Northwest Arvada, Quincy/C-470 (Soda Lakes), Golden, Ridge Home, US6/US40, Wadsworth, Wheat Ridge, US36@96th, Ken Caryl/C-470, US36 @ 104th, 44th/McIntyre, Quail, Lamar		
Bus Redeployment		Reconfigure the existing fixed route bus system for increased service		

Note: See page 36 for Projects Cost Methodology.

Project Name	Costs in Thousands	Project Limits	Proposed Improvement	Fiscally Constrained Plan
Transit				
Additional park-n-Ride lots		In West Jeffco & mountain areas, in general, to meet 20-year needs, lots are needed further west and additional capacity is needed in the mountain communities to encourage both use of transit and other shared ride services, (e.g., in the vicinity of C-470 or I70/Morrison Rd.)		
Additional 1,500,000 annual service miles		Primarily with mid to large size buses, oriented to local trips in Jefferson County. In some areas, small vehicles will be appropriate. Areas needing expanded services are north Jefferson County, south Jefferson County, mountain communities, and most of the north-south arterials. This is an approximate number that would increase riders per capita from the current Jefferson County annual level of 10 trips to 16 trips per capita. This is part of the program that would be required to achieve an additional mode split of 1.8% for transit on top of the 1.2% share that there would be if there were no changes over the next 20 years. The total mode share for transit would be 3%.		
Establish local transit planning processes		To evaluate effectiveness of RTD and locally funded transit services in meeting local travel needs and increasing the mode share for transit.		
TCM				
Public/Private TMO	$600	Countywide	Institutional (County coordinates … privately implemented) Part time staff to coordinate. Advocate of Alternate Modes and supporting land uses related to: Street Layout (Development Review) Density of Developments Land Use Mix Accessible Site Design	x
Employer-based TDM program	$150	Countywide	Institutional (County coordinate, employers implement)	x

Note: See page 36 for Projects Cost Methodology.

Project Name	Costs in Thousands	Project Limits	Proposed Improvement	Fiscally Constrained Plan
TCM				
Arterial Street Management Program	$1,100	Countywide	Access Management Signal Timing Intersection Transit "Diamond" lanes Signal pre-empt for buses Incident Management	x
Trip reduction programs	$150	Countywide	Telecommute Centers Employer work scheduling TMAs Carpooling/Vanpooling incentives ECO-Pass subsidy Guaranteed ride home	x
Transit and TCM planning	$400	Countywide	Regular planning to coordinate with RTD	x
Paratransit				
Pedestrian/Wheelchair friendly facilities	Policy	Countywide	More pedestrian/wheelchair friendly facilities near transit areas (including pedestrian improvements for intersection crossings). Incorporate into roadway improvements	x
Education	$260	Countywide	Education for potential new riders (options for neighborhood Eco-pass program)	x
Cab companies voucher system	$650	Countywide	Incorporate cab companies into transit service options for transit dependent populations through a voucher system	x
Centralized switchboard	$1,300	Countywide	Coordinated system for Jefferson County with centralized switchboard/reservations center	x
Service Broker	$390	Regional	Regional coordination with Service Broker	
Bike/Pedestrian	Greenway Trail (off-street, separate trail), Detached Trail (associated with a street),Costs are estimates +/- 10%			
6th Avenue Frontage Rd	$250	Indiana to Union	Detached Trail	x
82nd Ave	$150	Indiana to Alkire/S	Detached Trail	
96th Ave	$150	Indiana to Alkire	Detached Trail	
100th Ave	$150	Alkire to Simms	Detached Trail	
120th Ave	$400	Indiana to Simms	Detached Trail	x
	$150	SH121 to Pierce	Detached Trail	
	$125	Pierce to Sheridan	Detached Trail	
Alkire	$75	96th Ave to 100th Ave	Detached Trail	
C-470	$250	Quincy to Bear Creek Trail	Greenway Trail	x
Chatfield	$150	Wadsworth to Platte Canyon	Detached Trail	x
Croke Canal (Fairmount)	$700	McIntyre to Van Bibber	Greenway Trail	x
	$750	Van Bibber to Ralston Cr	Greenway Trail	x
Ellsworth Trail (I70/C470)	$200	C470 to Ellsworth	Greenway Trail	x
Farmers Highline (92nd)	$250	US 36 to 104th	Greenway Trail	x
Golden Gate Canyon Rd	$1,800	Gilpin Co. line to SH93	Combined	
Indiana	$1,000	Ralston Creek to 120th	Detached Trail	x
JC-73	$1,200	US285 to SH 74	Detached Trail	x
Jewell Ave	$75	Alkire to Yale/Welch	Detached Trail	x
Kipling	$300	32nd to Ridge Road	Detached Trail	x
	$250	13th Ave to 26th Ave	Detached Trail	x

Note: See page 36 for Projects Cost Methodology.

Project Name	Costs in Thousands	Project Limits	Proposed Improvement	Fiscally Constrained Plan
Bike/Pedestrian				
Little Dry Creek (80th)	$50	Grade separation @ Wadsworth	Greenway Trail	
McIntyre	$200	Clear Creek Tr to Croke Canal	Detached Trail	x
Morrison Rd	$250	Bear Crk to Bear Crk Blvd	Detached Trail	x
	$125	Fox Hollow to Bear Creek Trail	Detached Trail	x
N. Turkey Creek Rd	$100	US285 to S. Turkey Creek Rd	Combined	
Oak	$75	Bowles to Lilly Gulch	Detached Trail	x
Pierce	$150	Chatfield to Ken Caryl	Detached Trail	
	$200	Ken Caryl to Coal Mine/ Dutch Cr	Detached Trail	
Ralston Creek	$200	Beech to Xenon	Greenway Trail	x
S. Deer Creek Canyon Rd	$2,800	S. Turkey Creek Rd to Ute Ave	Combined	
S. Golden Rd	$150	Ulysses to Mt Vernon	Detached Trail	
S. Turkey Creek Rd	$600	N. Turkey Creek Rd to S. Deer Crk	Combined	
SH 72	$1,400	Boulder Co. line to SH93	Detached Trail	
	$700	SH93 to Indiana	Detached Trail	
SH 74	$3,500	Kerr Gulch Rd to C470	Greenway Trail	
	$750	Meadow Dr to Myers Gulch Rd	Greenway Trail	
SH 93	$500	SH72 to Boulder Co. Line	Detached Trail	
	$500	Ralston Creek to SH72	Detached Trail	
	$300	Ford St to Van Bibber	Detached Trail	
	$225	Van Bibber to Ralston Cr.	Detached Trail	
	$150	Washington to Ford St.	Detached Trail	x
Sheridan Blvd	$1,000	Clear Creek to 88th Ave	Detached Trail	x
	$75	13th Ave to 17th Ave	Detached Trail	
	$225	Florida to Alameda	Detached Trail	
	$300	Alameda to 13th Ave	Detached Trail	
	$150	17th Ave to 26th Ave	Detached Trail	
	$350	26th Ave to Clear Creek	Detached Trail	
Simms	$300	Ralston Creek to 82nd Ave	Detached Trail	
	$500	100th Ave to SH128/120th Ave	Detached Trail	
Tucker Gulch (N. Golden)	$100	SH93 to Ford	Greenway Trail	x
US 40	$1,000	SH74 to Genesee	Combined	
	$225	SH26/I-70 int. to C470 extension	Combined	
	$800	I-70/Genesee to SH26/I-70 int.	Combined	
	$750	Clear Creek Co. Line to SH74/I-70	Combined	
US 6	$500	C 470 Extension to Clear Creek Trail	Detached Trail	x
Ute Ave	$150	S. Deer Creek to Kipling/C470	Detached Trail	
Van Bibber Creek (58th)	$200	SH93 to Arvada Reservoir	Greenway Trail	
	$600	60th Ave to Easley Rd	Greenway Trail	
	$200	McIntyre to Indiana	Greenway Trail	
	$600	Ward Rd to Kipling	Greenway Trail	

Note: See page 36 for Projects Cost Methodology.

Project Name	Costs in Thousands	Project Limits	Proposed Improvement	Fiscally Constrained Plan
Bike/Pedestrian				
Wadsworth Blvd	$125	Clear Creek to 52nd Avenue	Detached Trail	x
	$125	US285 to Alameda	Detached Trail	x
	$75	104th to Walnut Creek	Detached Trail	x
	$200	1st Ave to 13th/14th Ave	Detached Trail	x
	$150	C470 to Chatfield	Detached Trail	
	$200	13th/14th Ave to 26th Ave	Detached Trail	
	$75	26th Ave to 32nd	Detached Trail	
	$125	112th Ave to JeffCo Airport Ave	Detached Trail	
	$125	Walnut Creek to 112th Ave	Detached Trail	
	$200	Belleview to Quincy	Detached Trail	
	$225	32nd Ave to Clear Creek	Detached Trail	
	$200	Lilly Creek to Crestline Ave	Detached Trail	
	$200	Chatfield to Ken Caryl	Detached Trail	
	$275	Ken Caryl to Lilly Creek	Detached Trail	
Weaver Gulch (Quincy)	$200	Simms to Quail	Greenway Trail	x
Youngfield	$225	Wide Acres Rd/Colfax to 26th Ave	Detached Trail	
	$75	26th Ave to 32nd Ave	Detached Trail	

Project Cost Methodology

The Project Information Matrix that was produced in the February through March 1997 timeframe was developed using several resources. These included:

- Individual Cities' plans, and previous studies
- The County Impact Fee program
- DRCOG's method of determining project costs
- Interviews with representatives from each city
- Windshield reconnaissance of over 400 miles of projects with each city's representative
- Comparison to recently constructed similar projects

Rough cost estimates were developed by the consultant to provide a relative order of magnitude comparison of all of the projects. This information was then used as one of many factors in the project prioritization process. Some of the rationale for developing the relative costs was:

1. Add a lane on an arterial - base Cost $1 - 1.5 million per lane mile

- Basic assumption assumes little or no ROW acquisition, minor earthwork, minimal driveway or commercial access, little or no realignment, basic drainage & utilities, etc.
- Less complicated installation such as restriping to get an additional lane, or a more rural installation without driveways, the base cost was reduced (depending on field reconnaissance by the consultant)
- More complicated factors such as horizontal or vertical realignment, signalization, evidence of utilities, frequent access, large cuts or fills, retaining wall possibilities, and ROW resulted in cost additions
- Major structures costs, (bridges, box culverts, etc) were added in separately, dependent on the size (average $50 to $100 per square foot).

2. Add a lane on highway or interstate (based on similar recent construction)

3. Interchanges

- Basis for comparison is the C-470 extension estimated costs,
- More complicated factors (such as ROW, wetlands, water crossing, roadway relocation) resulted in higher estimated costs

4.Intersections - base cost assumption - $200,000 (this was used as an average cost)

5.Bicycle/Pedestrian Projects

- Trails along a roadway - $147,000/mile;
- Stand-alone trails - $375,000/mile;
- Stand-alone trails with grade-separated road crossings - $500,000/mile

Reference: Memorandum to the CWTP Technical Committee dated August 26, 1997, from HNTB, Inc.