



LARIMER COUNTY TRANSPORTATION PLAN

September 2006



Clarion Associates

LARIMER COUNTY

TRANSPORTATION PLAN

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I. INTRODUCTION

A. Purpose of the Transportation Plan

Located along the Front Range in the northern part of Colorado, Larimer County has experienced increasing growth and development and this growth is expected to continue. In an effort to plan and prepare for future growth and its associated travel demands, the County has undertaken a process to develop a comprehensive transportation plan.

The primary purpose of a transportation system is to move people and goods in a safe and efficient manner. A variety of different travel demands needs to be considered in order to fulfill this purpose, including travel within the County, passing through the County, and between rural parts of the County and the County's cities. The movement of people and goods also involves various transportation modes, including vehicular, transit, pedestrian and bicycle, to provide for a high degree of mobility to all segments of the population. The County roadway system is currently the key element of the transportation system in that it accommodates the majority of the travel needs outside the city limits. This is likely to remain the case into the foreseeable future as some forms of the private automobile remains the primary mode of transportation. Therefore, it is important to develop a transportation plan which will enable the County to maintain a system that will satisfy the travel needs of County residents.

In the past, the County roadway network was designed to serve rural and regional needs. Arterial and local roads were constructed in conjunction with low density development patterns resulting in a disjointed transportation network. Ongoing growth and development in the County is creating an increase in traffic demands on this roadway network that are not easily accommodated. The County's ability to construct roads is constrained due to lack of funding. A majority of the County's roads and bridge budget is currently used for maintenance and repair of existing roads. These maintenance costs are directly attributable to the high number of road miles serving a large geographic area of somewhat low density and scattered developments. As a result, the main purpose of this transportation plan is to coordinate existing zoning and proposed developments with the future transportation needs of the County. It is also used to support an impact fee system to assess developers for roadway improvements necessary to accommodate development. It is the goal of the County to plan for a balanced transportation system that fits with the surrounding land uses in the County.

B. Background

The initial Larimer County Transportation Plan was prepared in 1998. That plan focused primarily on the county road system, but also included reviews of the bicycle, transit and rail systems. Improvement needs identified in that plan include improvements to existing roadways, construction of new roadways, and safety improvement and bridge reconstruction needs. The planning process included travel demand forecasting to the year 2020, and both current and future needs were identified.

In 1998, a Road Capital Expansion Fee program was established that requires new County development to pay fees to help fund the travel demand-driven, or capacity-driven, portion of the roadway improvement plan. The Road Capital Expansion Fee program has been in place since that time, with two components: A County Road Capital Expansion Fee is collected from development in the unincorporated part of the county to fund improvements to most of the County Road system and a Regional Road Capital Expansion Fee is collected from development in both the unincorporated county and in participating municipal areas to fund improvements to county roads identified as having substantial regional functions. The maintenance of an equitable and effective Road Capital Expansion Fee program requires periodic updating of the roadway improvement plan are reviewed and included in this document.

The primary focus of this revised transportation plan is to update the capacity-driven roadway improvement needs portion of the 1998 Transportation Plan. In addition, the bicycle, transit and rail components of the 1998 Transportation Plan are reviewed and included in this document. This plan acknowledges and incorporates a number of changes that have occurred since preparation of the 1998 Transportation Plan, including:

- ▶ The seven years of development experience and roadway improvements since 1998;
- ▶ New county land use forecasts and an updated North Front Range regional travel demand model that reflects new land use forecasting;
- ▶ Updated roadway construction costs;
- ▶ New county roadway classifications; and
- ▶ Identification of regionally significant roads that are proposed to be the focus of a Regional Transportation Authority slated to be placed before Larimer and Weld County voters in a future election.

II. INVENTORY OF EXISTING TRANSPORTATION SYSTEM

To understand how the transportation system functions in Larimer County today, an update to the inventory of the elements comprising the existing system was conducted. Conducting this inventory was an integral step of the planning process in order to identify areas in need of improvement over the 25 year planning period. This inventory focused primarily on the roadway network and was based on available data on the County's Geographic Information System (GIS) database.

The County roadway network provides the dominant means of transportation for this area, with the state highway system serving as the backbone for this network. Vehicular travel, transit systems, and the majority of the bicycle travel in the County rely heavily on a well maintained and complete roadway network.

A. Functional Classification

A roadway network is comprised of a hierarchy of roadways whose functional classifications are defined by their usage. In general, streets serve two functions; they provide access and mobility. The relative degree to which a road serves these functions defines its functional classification. In order of their ability to provide mobility, the roadway functional types are more thoroughly described as follows:

State and U.S. Highway System

Much of the primary regional roadway system in Larimer County consists of roads that are maintained by the federal and state governments:

- ▶ Interstate 25 (I-25) is the county's only Freeway, defined by high speeds and access provided by widely spaced, grade-separated interchanges.
- ▶ US 34, US 36 and US 287 are the other federal highways with segments within the county. These highways all provide regional mobility functions to and through the county.
- ▶ State Highways in the county include segments of SH 1, SH 7, SH 14, SH 56, SH 60, SH 68, SH 392 and SH 402. These roads generally serve arterial roadway functions.

Arterials

Arterials carry longer-distance traffic flow for regional, intercommunity and major commuting purposes. Arterials have a limited number of at-grade intersections and, only when other alternatives do not exist, direct property access. Arterials can carry significant traffic volumes at higher speeds for longer distances, and are seldom spaced at closer than one-mile intervals. Within Larimer County, any roadway with a possibility of requiring widening to four-lanes is designated as an arterial based on the needed right-of-way width.

Major Collectors

Major collectors are the next highest classification and are higher speed roadways where mobility still takes precedence over access. This designation is also used for rural primary facilities where the arterial classification is not warranted by lanes or volumes.

Minor Collectors

Minor collectors serve as main connectors between communities and neighborhoods. They distribute traffic between arterials/major collectors and local roads. Most of the traffic on minor collectors has an origin or a destination within the community. Also known as rural secondary facilities, this classification includes most county roads that are numbered and are not classified as major collectors or arterials.

Local Roads

The primary function of local roads is to provide access to adjacent land uses, whether it be residences, businesses, or community facilities. Local streets generally are internal to or serve an access function for a single neighborhood or development. Traffic using local roads should have a close-by origin or destination. Typically, county numbered roadways with a local classification are limited in length and continuity.

Figures 1A and 1B illustrate the roadway functional classifications.

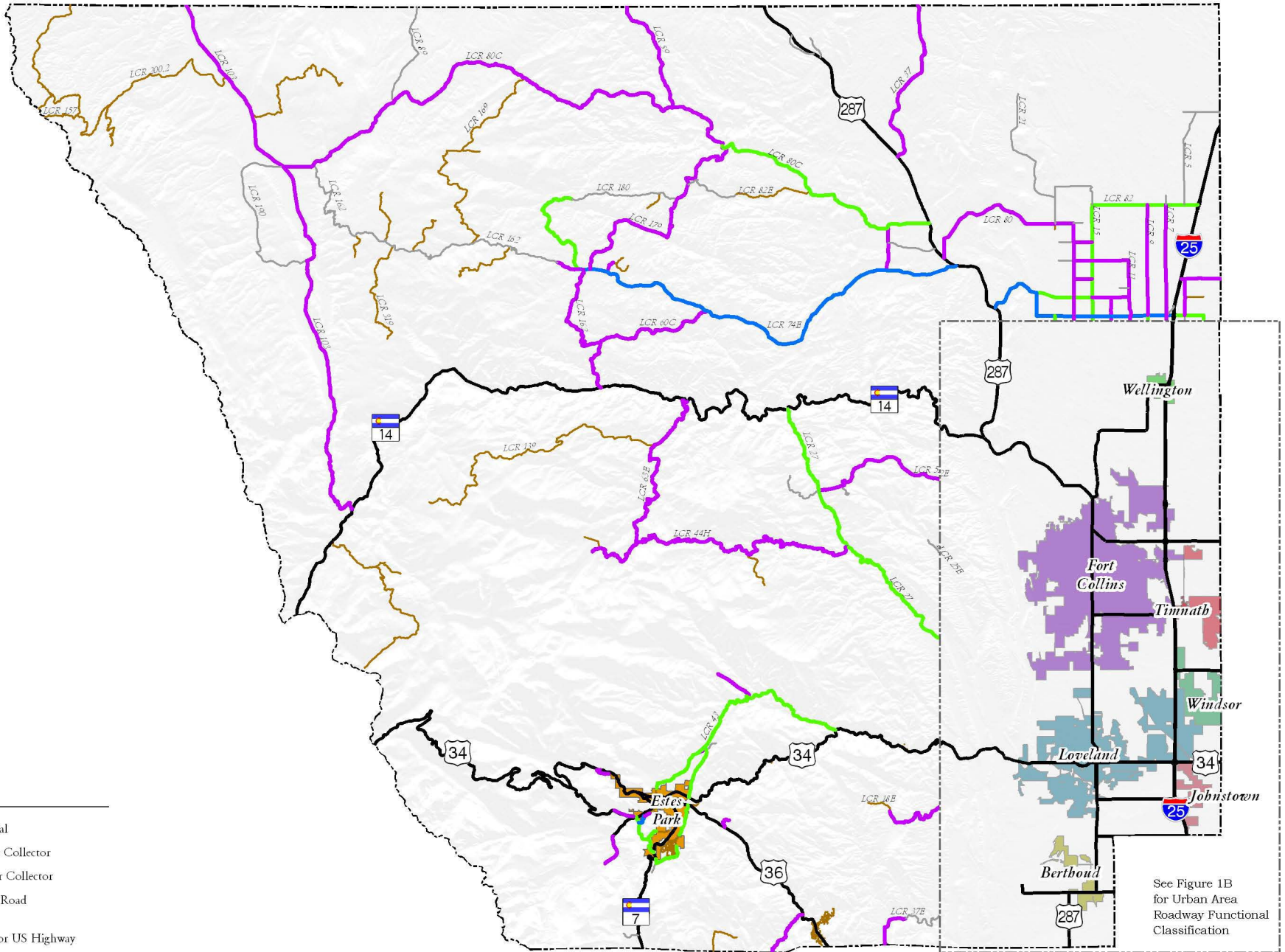
B. Regional Roads

County roads that have a primarily regional function, as opposed to primarily serving travel demands within the unincorporated county, form the basis for the Regional Road Capital Expansion Fee. Roads that fulfill a predominantly regional function have been preliminarily identified by members of the North Front Range and Upper Front Range planning organizations to be the subject of a planned Regional Transportation Authority ballot question. Those roads that are also Larimer County roads will form the Regional Road system that will be the focus of the Regional Road Capital Expansion Fee, including segments of:

- ▶ Prospect Road/Larimer County Road (CR) 44;
- ▶ CR 38 (the eastern extension of Harmony Road/SH 68);
- ▶ CR 32/Carpenter Road (the western extension of SH 392);
- ▶ CR 30;
- ▶ Crossroads Boulevard/CR 26;
- ▶ CR 18 (the eastern extension of SH 402);
- ▶ CR 19/Taft Hill Road/Wilson Road;
- ▶ CR 17 / Shields Street /Taft Road;

- ▶ CR 11C/CR 11/Timberline Road;
- ▶ CR 9/Boyd Road; and
- ▶ CR 5.

The County Regional Roads are shown on **Figure 2**.



Legend

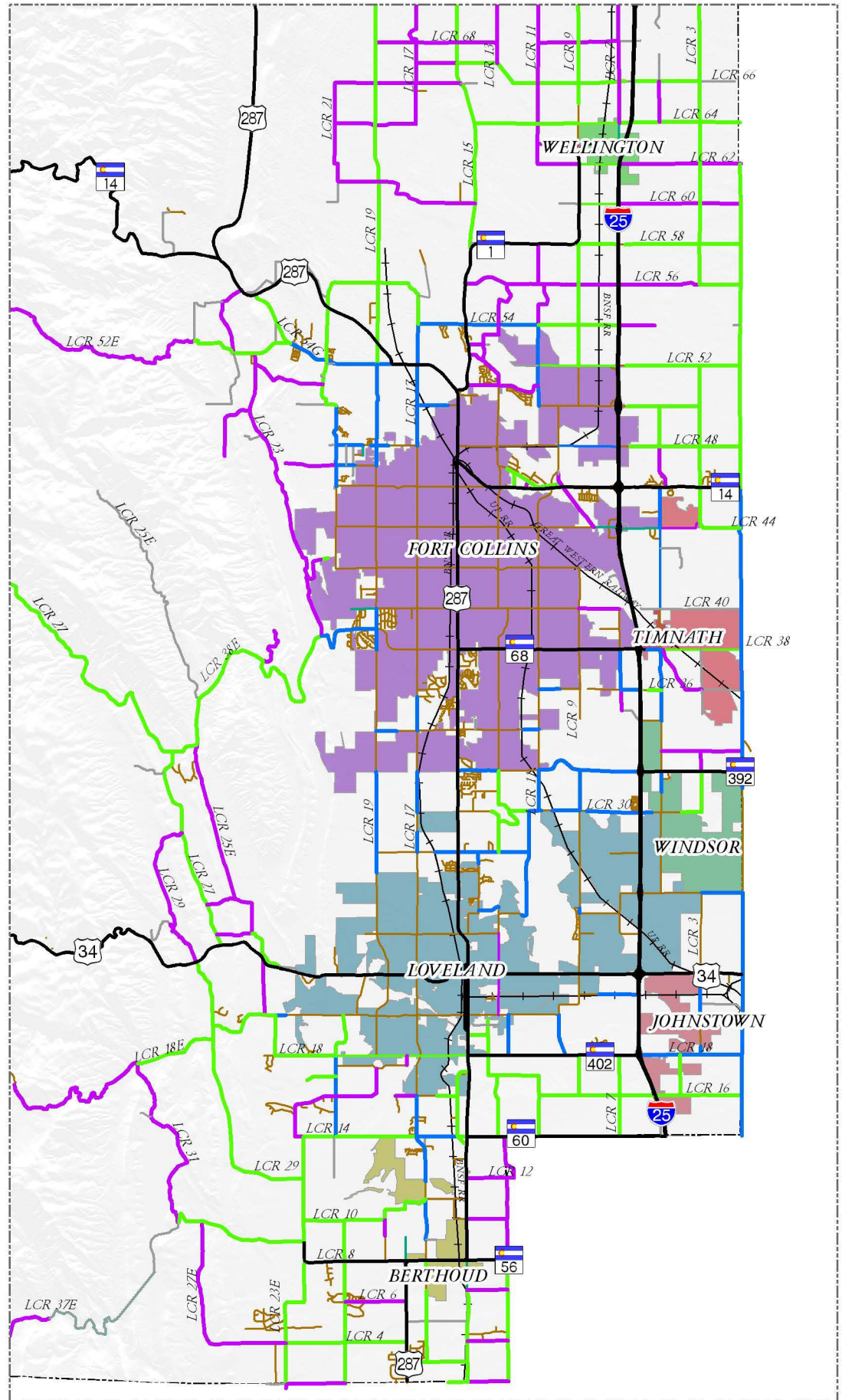
- Arterial
- Major Collector
- Minor Collector
- Local Road
- State or US Highway
- Other Roads
- Larimer County



North

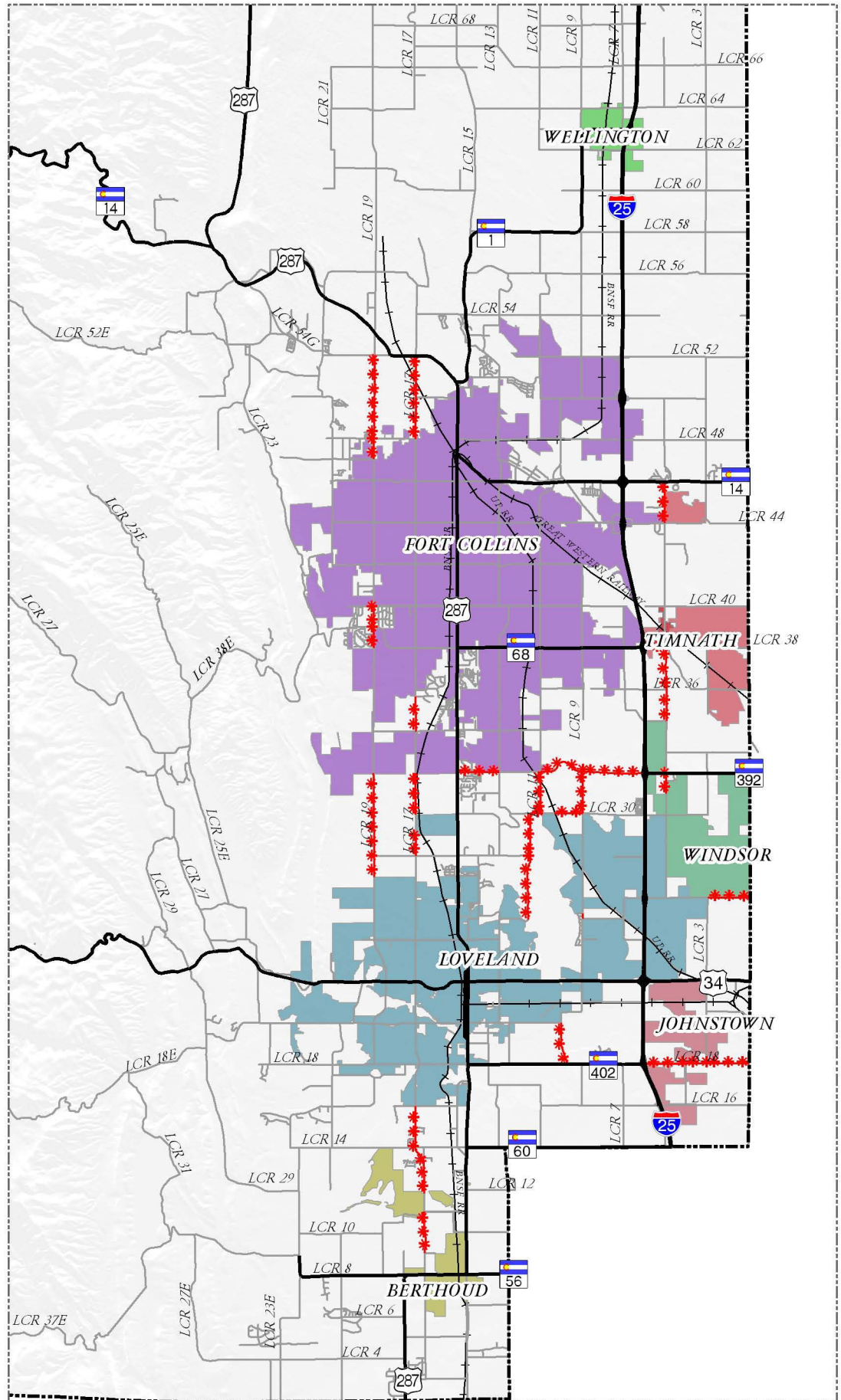
See Figure 1B
for Urban Area
Roadway Functional
Classification

Figure 1A
Roadway Functional Classification



- Legend**
- State or US Highway
 - Arterial
 - Major Collector
 - Minor Collector
 - Local Road
 - Other Roads

Figure 1B
Roadway Functional Classification



Legend

- State or US Highway
- Regional County Road
- Other Roads
- Larimer County

Figure 2

Regional Roads



North

C. Roadway Conditions

Travel Lanes

Figures 3A and 3B show the existing laneage on the State Highway and County maintained Road systems. The majority of the roads in Larimer County consist of two travel lanes. I-25, US 34 through Loveland, and sections of US 287, SH 68 and SH 14 consist of four lane cross-sections. US 287 through Fort Collins consists of six travel lanes. Various roadway segments, particularly in the mountainous portion of the County consist of three lanes, with the third lane acting as a climbing or passing lane. Several unpaved roads in the mountainous areas consist of a single travel lane.

Surface Conditions

Figures 4A and 4B illustrate the surface conditions (paved versus unpaved) of the Larimer County roadway network, as well as the roadway width ranges for the paved roadways. All State Highways in the County are paved. The majority of the County roads in the urban areas are paved, while many of the rural and mountainous roads are unpaved. Overall, approximately half of the roadway miles on the County roadway network are paved.

Area Type

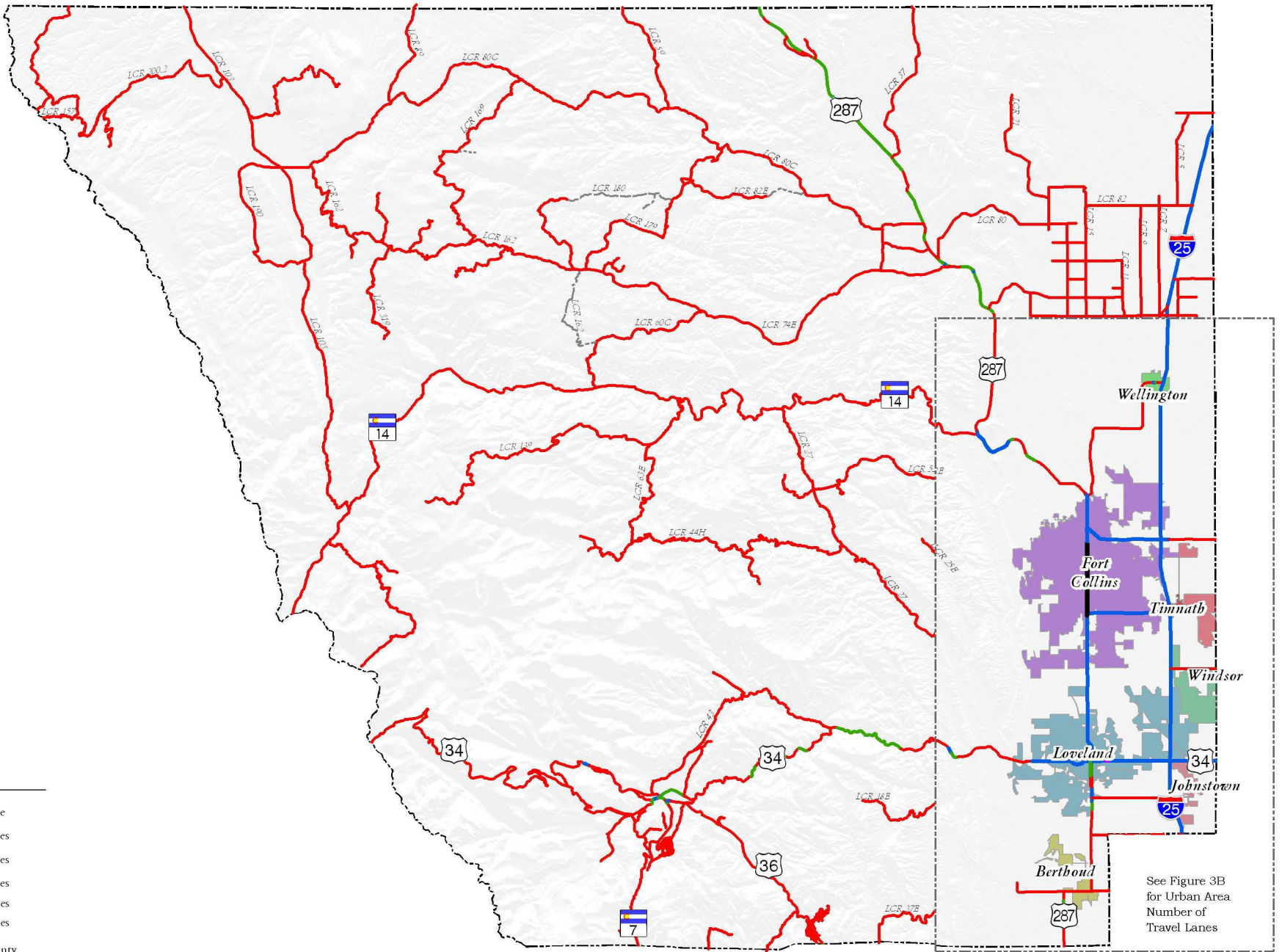
Larimer County has diverse terrain; it transitions from plains in the eastern portion of the County to mountainous in the central and western portions. Additionally, Larimer County contains both urban and rural areas. The County has been divided into three area types for the purpose of developing Capital Expansion Fees; Urban, Rural and Mountainous. The majority of the roadway miles in the County (52%) are classified as mountainous. Approximately 36% of the roadway miles are rural, and the remaining 12% are urban.

D. Traffic Volumes

Traffic volumes are one indicator of the relative importance of a roadway in an area. When compared to roadway capacity estimates, traffic volumes also reveal generally how a road is functioning (level of service) and if improvements to increase capacity are necessary.

The most commonly used measurement of traffic volume is average daily traffic (ADT). ADT is defined as the total number of vehicles passing a certain point in both directions in a 24-hour period. Larimer County maintains a database of daily traffic volume counts on both the County Roads and the State Highway system. The data provided are generally from the last three years.

Figures 5A and 5B illustrate the existing daily traffic volume range for all roadways on the County's major roadway system. A complete list of traffic volumes on the major roadway system is also included in **Appendix A**.



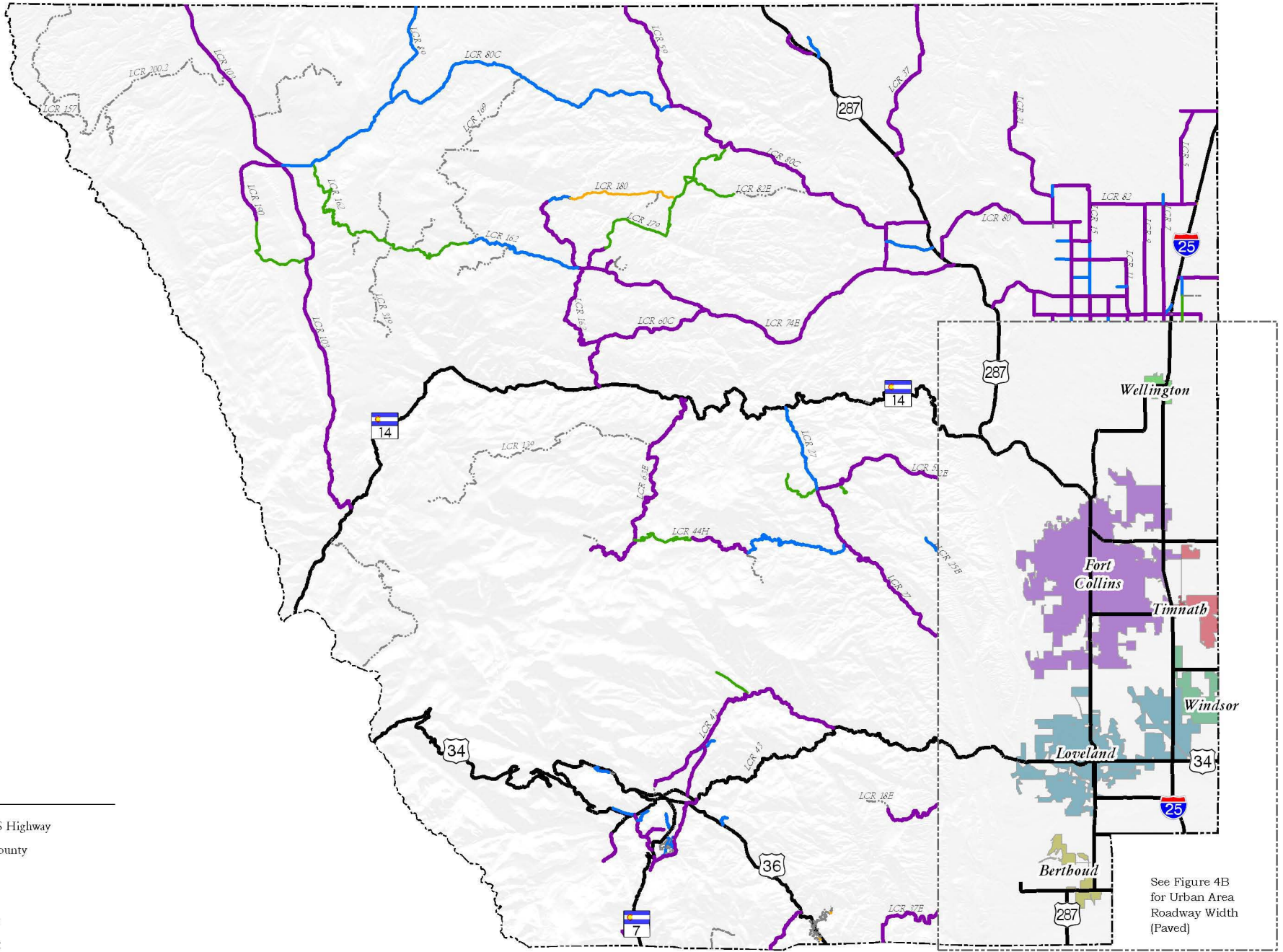
Legend

- 1 Travel Lane
- 2 Travel Lanes
- 3 Travel Lanes
- 4 Travel Lanes
- 5 Travel Lanes
- 6 Travel Lanes
- Larimer County



North

Figure 3A
Existing Number of Travel Lanes

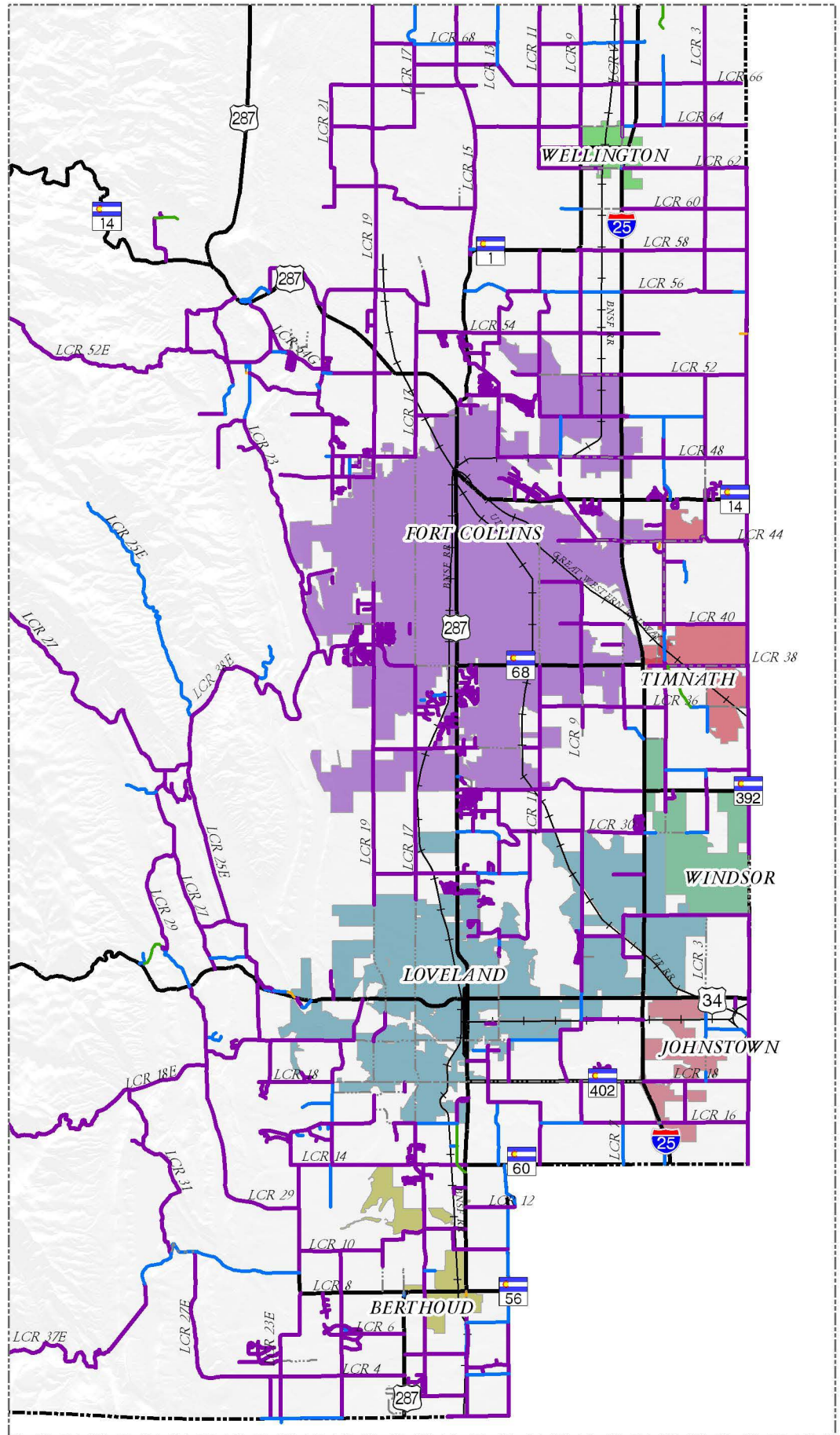


Legend

- State or US Highway
- Larimer County
- Road Width**
- < 12 feet
- 13 - 19 feet
- 20 - 22 feet
- 23 - 48 feet
- Forest Service Agreement Roads



Figure 4A
Existing Roadway Width



Legend








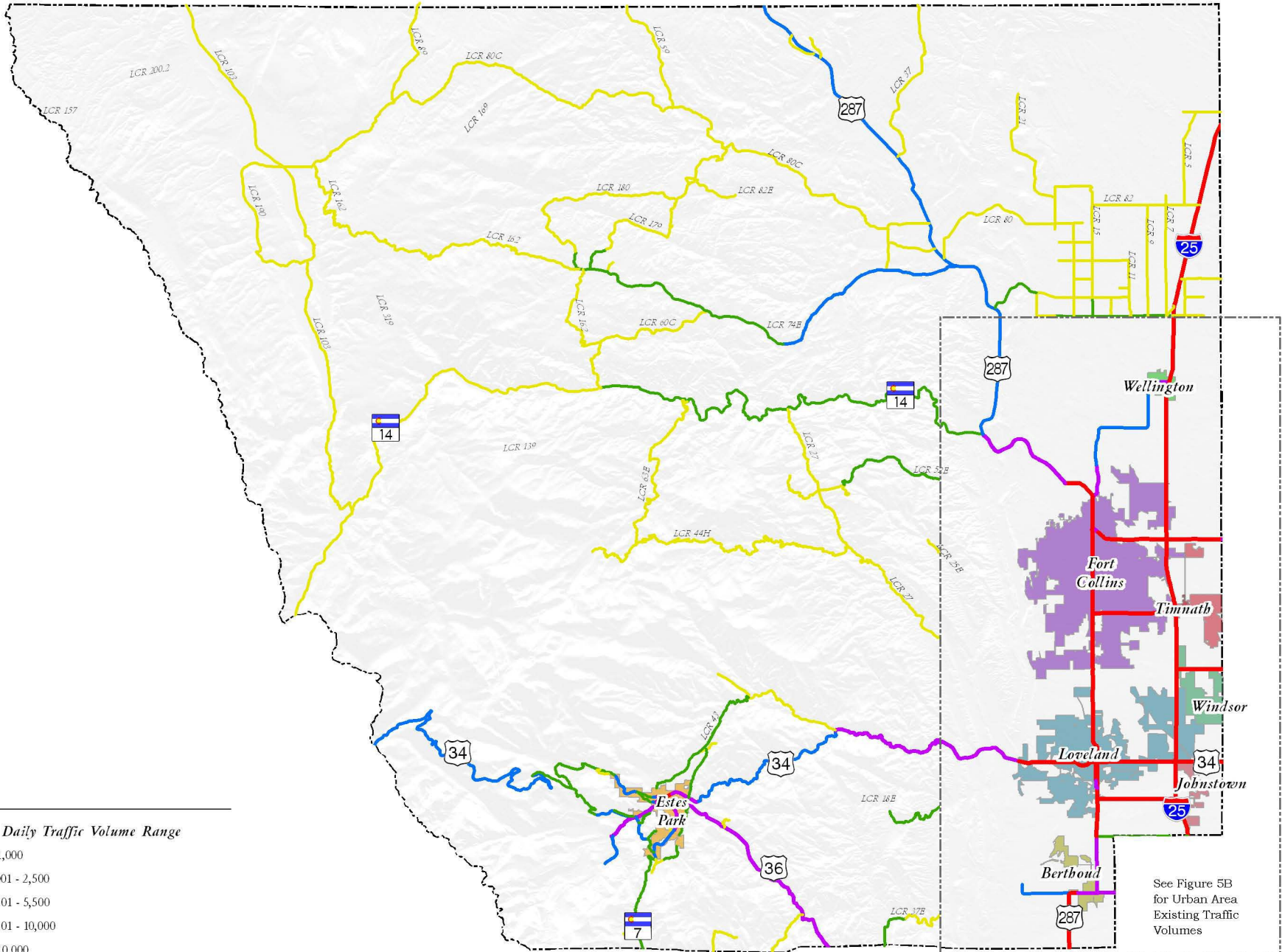
-  State or US Highway
-  Larimer County
- Paved Road Width*
-  <12 feet
-  13 - 19 feet
-  20 - 22 feet
-  23 - 48 feet
-  Other Roads

Figure 4B

Existing Roadway Width



North



Legend

- Existing Daily Traffic Volume Range*
- ≤ 1,000
 - 1,001 - 2,500
 - 2,501 - 5,500
 - 5,501 - 10,000
 - > 10,000

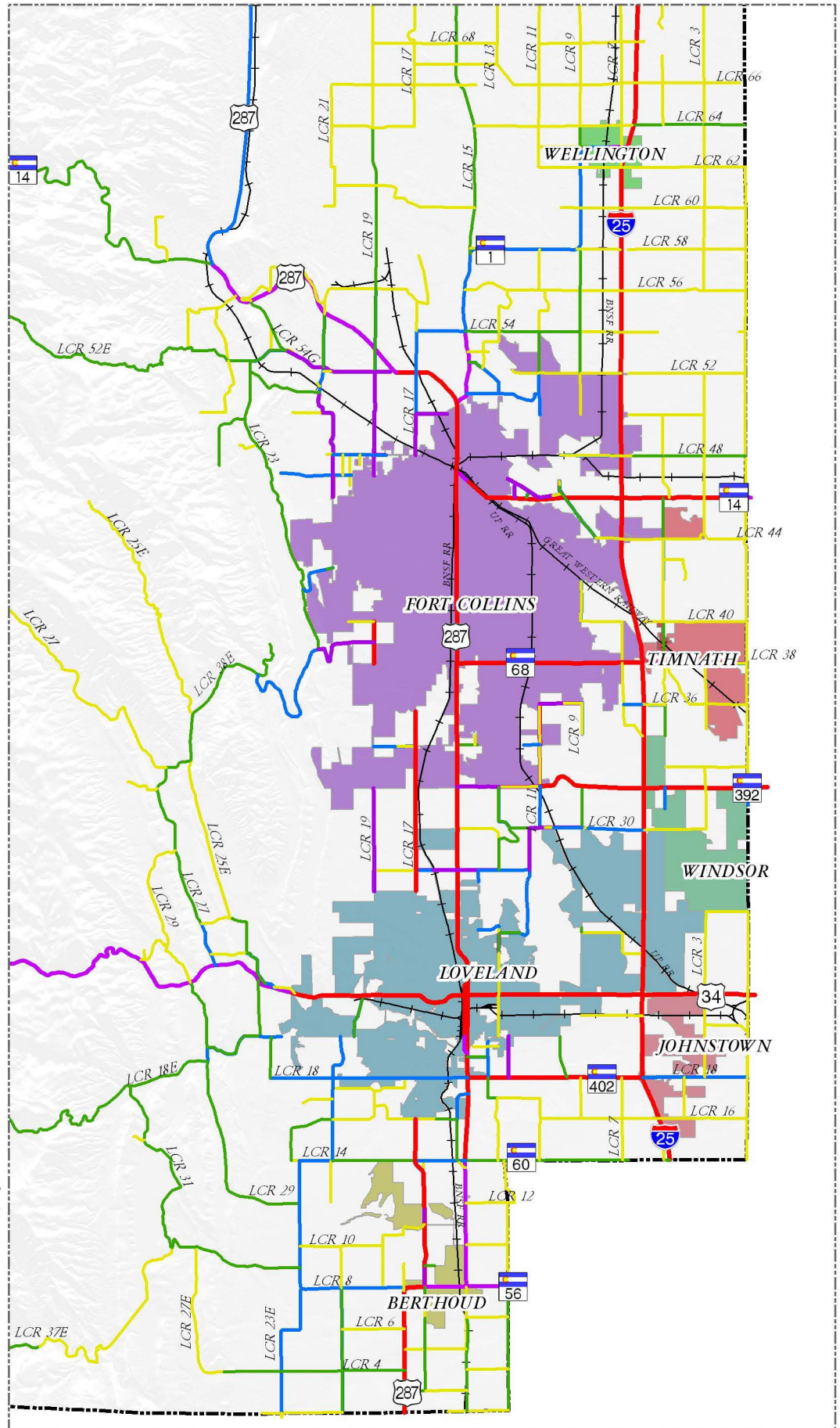
Larimer County



North

See Figure 5B
for Urban Area
Existing Traffic
Volumes

Figure 5A
Existing Traffic Volumes



Legend

Existing Daily Traffic Volume Range

- < 1,000
- 1,001 - 2,500
- 2,501 - 5,500
- 5,501 - 10,000
- > 10,000

Larimer County

Figure 5B

Existing Traffic Volumes



Table 1 provides a summary of the mileage and vehicle miles of travel on County Roads which fall within each functional classification in unincorporated Larimer County. Roadways in the collector and arterial street categories comprise the major roadway system. These major roads account for 84% of the total roadway mileage, but carry 98% of the travel.

Table 1. County Road Miles and Vehicle Miles of Travel by Functional Classification

Functional Classification	Roadway Distance		Vehicle Miles of Travel	
	Distance (Miles)	Percent of Total County Mileage	Vehicle Miles of Travel	Percent of County Vehicle Miles of Travel
Arterial	110	14%	425,500	49%
Major Collector	245	30%	290,700	34%
Minor Collector	325	40%	131,400	15%
Local Roads	130	16%	17,100	2%
Total	810	100%	864,700	100%

A detailed inventory of the County’s major roadway system, consisting of arterial and collector County Roads, is provided in **Appendix A**.

E. Roadway Capacities

A roadway’s capacity can be defined as the maximum traffic volume that can be accommodated at desired levels of service. Capacity is defined differently for different roadway types, as described below.

Unpaved Roads

The Colorado Department of Public Health and Environment requires that any unpaved roadway which has vehicle traffic exceeding 200 vehicles per day in attainment areas be paved or treated for dust abatement.

For the purposes of this document, unpaved roads are separated into three categories:

- ▶ Native surface or untreated gravel;
- ▶ Treated gravel; and
- ▶ Chip-seal.

Native surface or untreated gravel roads are ones that have not received any surface treatments. Treated gravel roads are roads that have been treated with chemicals to control dust. There are also a relatively small number of roads in the County that have been treated with a chip-seal technique. Chip-seal is an inexpensive treatment which creates an adequate roadway surface for small volumes of traffic, but which wears down quickly with higher traffic volumes. Larimer County requires that untreated gravel or native surface roadways with traffic volumes greater than 200 vehicles per day be treated. The Larimer County Land Use Regulations require that gravel and chip-seal treated roads that carry more than 400 vehicles per day be paved to a standard asphalt surface. **Table 2** shows the daily capacities used in this study for those road segments classified as unpaved.

Table 2. Capacity Assumption for Unpaved Roads

	Capacity (Vehicles Per Day)
Unpaved – native ¹	200
Unpaved – treated gravel ²	400
Chip Seal ²	400
¹ Source: Colorado Air Quality Control Commission, Colorado Department of Public Health and Environment	
² Source: Larimer County Land Use Regulations	

Paved Two-Lane Roads

Level of service (LOS) is commonly used to define the quality of traffic flow on various roadway types based on a comparison of traffic volumes with roadway characteristics. A LOS scale ranging from A to F is used to define the quality of flow, with LOS A representing an essentially free-flow situation and LOS F representing the highest levels of congestion, with traffic volumes exceeding the intended capacity of the roadway. Larimer County has established LOS guidelines for County Roads, which are LOS D or better in urban areas and LOS C or better in rural areas.

The nationally accepted source for highway capacity evaluations, the Highway Capacity Manual (Transportation Research Board, 2000), along with typical traffic flow characteristics, have been used to approximate the maximum daily traffic volumes for two lane roadways to achieve Larimer County’s LOS criteria of LOS D in urban areas and LOS C in rural areas. *Additionally, the capacity numbers have been calibrated to more specifically reflect conditions in the study area.* These capacities range from 15,300 vehicles per day on roads with full width lanes and shoulders in urban areas to 1,900 vehicles per day on roads with narrow lanes and no shoulders in the mountainous areas. **Table 3** outlines the assumptions used in calculating the two-lane roadway capacities, and **Table 4** provides the resulting daily capacities based on lane and shoulder widths.

Table 3. Capacity Assumptions for Paved Two-Lane Roads

	Urban	Rural	Mountain
Level of Service	LOS D	LOS C	LOS C
Terrain	Level	Rolling	Rolling
Directional Split	60%/40%	60%/40%	60%/40%
Heavy Trucks	3%	3%	2%
Recreational Vehicles	1%	1%	5%
No Passing Zones	60%	30%	60%
Peak Hour Factor	0.95	0.95	0.95
Daily Traffic in Peak Hour	9%	8.5%	8.5%
Segment Length	1 mile	1 mile	1 mile
Base Free Flow Speed	55 mph	60 mph	55 mph
Access/Mile	10	6	4
Highway Class	Class I	Class I	Class I

Table 4. Daily Capacities of Paved Two-Lane Roads

	Useable Shoulder Width (feet)	12-Foot Lanes	11-Foot Lanes	10-Foot Lanes	9-Foot Lanes
Urban	6	15,300	14,700		
	4	13,100	12,300		
	2	10,700	10,000	7,700	
	0	7,700	6,600	4,600	3,700
Rural	6	10,000	9,500		
	4	8,500	8,000		
	2	7,000	6,400	5,000	
	0	5,000	4,200	3,000	2,400
Mountainous	6	8,300	7,600		
	4	7,100	6,400		
	2	5,800	5,100	4,100	
	0	4,100	3,400	2,400	1,900

Source: Highway Capacity Manual, 2000 for all urban level capacities as well as initial rural and mountainous values. Hand balancing was completed for segments with similar geometrics, and to reflect lower capacities for narrower shoulders in rural and mountainous areas.

Multi-Lane Roads

Capacities of roads with four lanes were estimated based on typical traffic flow characteristics and capacities per hour per lane that have been developed as part of the North Front Range travel demand model.

A three lane road is a road where the third lane serves as a continuous shared left-turn lane. This type of roadway improves traffic flow over a typical two-lane road by allowing turning vehicles to wait in dedicated turn lanes, out of the way of through traffic. Capacities for three-lane roads were estimated by reviewing field data from three-lane segments, baselining that information against the two- and four-lane capacities shown above, and running the two-lane Highway Capacity Software module with 0 access points per mile. **Table 5** shows the daily capacities for multi-lane roads and **Table 5** shows the daily capacities of urban and rural roads based on the number of lanes.

Table 5. Daily Design Capacities for Multi-lane Roadways

Lanes	Urban (LOS D) ¹	Rural (LOS C)
3	23,000 ADT	15,400 ADT
4	32,000 ADT	24,500 ADT
Source: North Front Range Regional Travel Model, converted to daily assuming 9% of daily traffic in peak hour.		
¹ Modified from NFR Regional Travel Model to reflect LOS D		

Based on these techniques and the roadway inventory data, the capacity of each roadway segment is defined for the major roadway system in **Appendix A**.

F. Volume to Capacity Ratios

One operational measure that is used to define operational characteristics is volume to capacity ratio (v/c). This is the daily traffic volume on a given roadway divided by the daily capacity of that roadway. The daily capacity thresholds described in Section II-E are the basis for the v/c ratios. These ratios are used to describe congestion on street segments, and were used to determine the needed roadway improvements. Road segments with v/c ratios greater than one are slated for improvements.

G. Bicycle Facilities

The Larimer County Parks & Open Lands, Engineering, and Road & Bridge Departments have been implementing a bikeway system over the last ten to 20 years. These bikeways include designated bike routes, on-street striped bike lanes and off-road multi-purpose trails. Each of these bike facilities has specific definitions and is described as follows:

- ▶ **Bicycle Trails** – A trail, path, or segment of a bikeway completely separated from the roadway and used exclusively for bicyclists and pedestrians (i.e. off-street recreational trails and sidewalk trails).
- ▶ **Bicycle Lane** – A portion of a roadway designed for bicycles, distinguished by a paint stripe, curb or similar device.
- ▶ **Bicycle Route** – A system of bikeways which interacts with motorized traffic, does not have a separate lane, and is designated by route markers. Bicyclists must share the same roadway with vehicles.

The cities of Fort Collins and Loveland have also taken steps toward developing a bikeway and trail system.

H. Transit Systems

Larimer County is served by both public and private transit providers. Four fixed-route systems are operated in the County as well as a number of demand responsive services. A summary of each of the existing transit services is provided below. More detailed information on each system including operating characteristics, measures of effectiveness, financing, fleet, and facilities can be found in the *North Front Range 2030 Regional Transportation Plan* and the *Upper Front Range 2030 Regional Transportation Plan*.

Larimer County Specialized Transportation

Through Transfort, Larimer County's Health and Human Services department provides a demand responsive service open to northern Larimer County residents that live outside the Fort Collins Urban Growth area, in Laporte, or in Wellington. The fare for this service is \$2.50 with reduced fares available for those who qualify. The hours of operation are 6:30 AM to 6:30 PM Monday through Friday.

City of Fort Collins – Transfort/DAR

The City of Fort Collins operates Transfort, a fixed-route service, and Dial-A-Ride (DAR), a demand responsive and paratransit service. Dial-A-Ride provides service to senior citizens and individuals who qualify under the American Disabilities Act. Service is provided in the urbanized Fort Collins area and parts of Larimer County.

Service operates Monday through Saturday with more frequent service when Colorado State University is in session. Fares for fixed-route Transfort service are \$1.25 per ride and \$0.60 for seniors and disabled passengers. DAR fares are \$2.50 per ride.

The FoxTrot, a regional route connecting Fort Collins and Loveland, is also operated by Transfort. One-way fare is \$1.25. This route is funded by Fort Collins, Loveland, and Larimer County.

City of Loveland Transit – COLT

COLT operates two fixed-routes and provides funding for the regional FoxTrot route connecting Loveland and Fort Collins. In addition, COLT operates a demand-response service for elderly and disabled residents of Loveland called the Mini Bus.

COLT's service operates Monday through Saturday. The regular fares are \$1.25 for a one-way ride. People who are elderly, have disabilities, and the youth pay \$0.60 per ride. Special rates are also available for low income residents. Seniors and ADA-eligible people qualify for paratransit service. Paratransit fares are \$2.00 for a single ride.

Rocky Mountain National Park

The fourth fixed-route system operating in the region is the service operated by Rocky Mountain National Park. The shuttle bus service runs along the Bear Lake Road corridor in the summer months. It generally begins operation in mid-June. During peak periods, this service operates seven days a week through the weekend following Labor Day. After that, the shuttle bus service operates only on Fridays, Saturdays and Sundays through Columbus Day. The shuttle bus service does not operate in the winter months. There is no charge for the service.

The Rocky Mountain National Park service is operated by a contractor, and many of the drivers are school bus drivers in Estes Park during the school year.

Town of Berthoud – Berthoud Area Transportation Services (BATS)

The Town of Berthoud operates demand responsive service, not only within Berthoud but also for the surrounding rural area, within the limits of the Berthoud Rural Fire Protection District. This district, most of which is still classified as “rural”, includes portions of Boulder and Weld Counties as well as Larimer County.

This demand-responsive service is operated from 7:00 AM to 4:00 PM, Monday through Friday. The fare for local service is \$0.50 per ride. The suggested donation for out-of-town trips is \$2 to \$5, depending on income.

Town of Estes Park – Special Transit

Special Transit has been serving Estes Park since 1999 with door-to-door specialized transit services. The service operates four days per week in Estes Park and operates once per month between Estes Park and Loveland.

Fares within Estes Park are \$1.25 per ride. Fares between Estes Park and Loveland are \$3.00 per ride. Passengers call in advance for the service and may schedule trips as much as two weeks in advance.

Wellington Senior Center

The Town of Wellington through its Senior Services Center operates a limited demand responsive service for residents to Fort Collins and/or Loveland.

VanGo

The North Front Range Metropolitan Planning Organization operates the VanGo vanpool program which provides service in Larimer County. Currently about 39 vans originated in Fort Collins; about one-third of these vans travel into downtown Denver while the other half travel into the Denver Metro area, Greeley and Wellington. Another six vans originate in Loveland and travel to the Denver Metro area and Fort Collins¹.

TNM&O Coaches/Greyhound

TNM&O/Greyhound is a private transit provider that operates inter-regional bus services from Fort Collins in Larimer County.

I. Rail System

The rail transportation system in Larimer County primarily serves the purpose of moving freight. Passenger rail service is currently not available in the County. **Figure 6** depicts the existing rail system for the County and the surrounding areas. **Table 6** summarizes the existing rail service and the track condition based on the age of the track bed and the weight of the rail. The Union Pacific Railroad, the Burlington Northern Santa Fe Railroad and the Great Western Railway each operate rail lines in the County. As shown on **Figure 6**, there is also an abandoned rail line extending northwest from Fort Collins.

¹ North Front Range MPO, June 2006.

Table 6. Rail System

Rail Segment	Owner	Length	Condition ¹
Denver-Boulder-Longmont-Loveland-Fort Collins	Burlington Northern Santa Fe Railroad	23 miles	Fair
Fort Collins-Cheyenne	Burlington Northern Santa Fe Railroad	29 miles	Poor to Fair
Denver-Greeley-Fort Collins	Union Pacific Railroad	22 miles	Good
Fort Collins-Windsor-Greeley	Great Western Railway	9 miles	Poor to Fair
Loveland-Johnstown	Great Western Railway	10 miles	Poor to Fair

¹ Overall condition of existing track based on age of track bed and weight of rail for passenger rail usage in the future.

III. IDENTIFICATION OF SHORT RANGE ROADWAY IMPROVEMENT NEEDS

A. Unit Cost Estimates

Planning-level, 2005 unit costs were developed for the different roadway improvement types identified in the plan. Urban roadway sections used to calculate quantities (per mile basis) were those shown in the *Larimer County Urban Area Street Standards*, adopted by Larimer County, Fort Collins and Loveland in 2002. Where differences exist in the cross-sections by jurisdiction, (such as bike lane, sidewalk, and median widths) the larger values were generally used for quantity calculation. Rural roadway sections were based on two 12 foot lanes and two six foot shoulders with widening at intersections accommodating left turn lanes. A total length of approximately 1700 feet was used to include taper, deceleration and storage for turn lanes throughout the one mile rural section. Engineering design and construction management, mobilization and traffic control were included in each estimate. They were calculated based on a percentage of the estimated construction costs.

Unit costs were developed using recent bid tabulations in the Larimer County area. Validation of the unit costs was made by comparison with CDOT Average Unit Bid Prices (2004). Where no unit costs for items were included in the Larimer County values, CDOT Average Unit Bid Prices were used. Costs do not include right-of-way, landscaping or aesthetic upgrades, or major utility additions or relocation. All unit costs should be treated as order of magnitude; actual construction costs will differ for specific roadways depending on topography, required structures, number of access points, and other roadway characteristics. The conceptual cost estimates are summarized in **Table 7**, and the quantity calculations and cost estimate worksheets are included in **Appendix B**.

Table 7. Conceptual Unit Cost Estimates

Improvement Category	Cost per Roadway Mile		
	Area Type		
	Mountainous	Rural	Urban
Native to Treated Gravel	\$500,000	\$500,000	n/a
Lane and Shoulder Widening *	\$1,550,000	\$1,000,000	\$1,450,000
Pave Gravel Road	\$1,550,000	\$1,000,000	\$1,450,000
Construct New 2-Lane Road	\$2,350,000	\$1,850,000	n/a
Widening of 2-Lane to 3-Lane (semi-Urban) **	n/a	\$2,850,000	\$2,850,000
Upgrade to 4-Lane Urban Arterial **	n/a	n/a	\$5,100,000
* Applies to Widening of Existing 2-Lane Paved Roads ** Includes Typical Numbers of Traffic Signals COSTS EXCLUDE ALLOWANCE FOR: Right-of-Way Costs Landscaping/Aesthetic Upgrades Utility Addition/Relocation			

B. Roadway Improvement Projects

Four roadway improvement project types have been identified which have the primary purpose of providing adequate roadway capacity to serve travel demand. Short-range project needs have been identified based on existing travel demand. In the case of both paving and widening needs, it is recommended that these improvement projects result in widening to full two-lane roadway standards (twelve-foot lanes and six-foot shoulders) to provide the safest roadways possible and prevent the need for more costly future improvements.

Upgrade Native Surface Roads to Treated Gravel Roads

Seven native surfaced roadways are currently operating with volumes greater than capacity. These seven segments, totaling approximately 28.3 miles in length, will be able to meet the current demand when they are upgraded to treated gravel surfaces.

Roadway Paving Projects

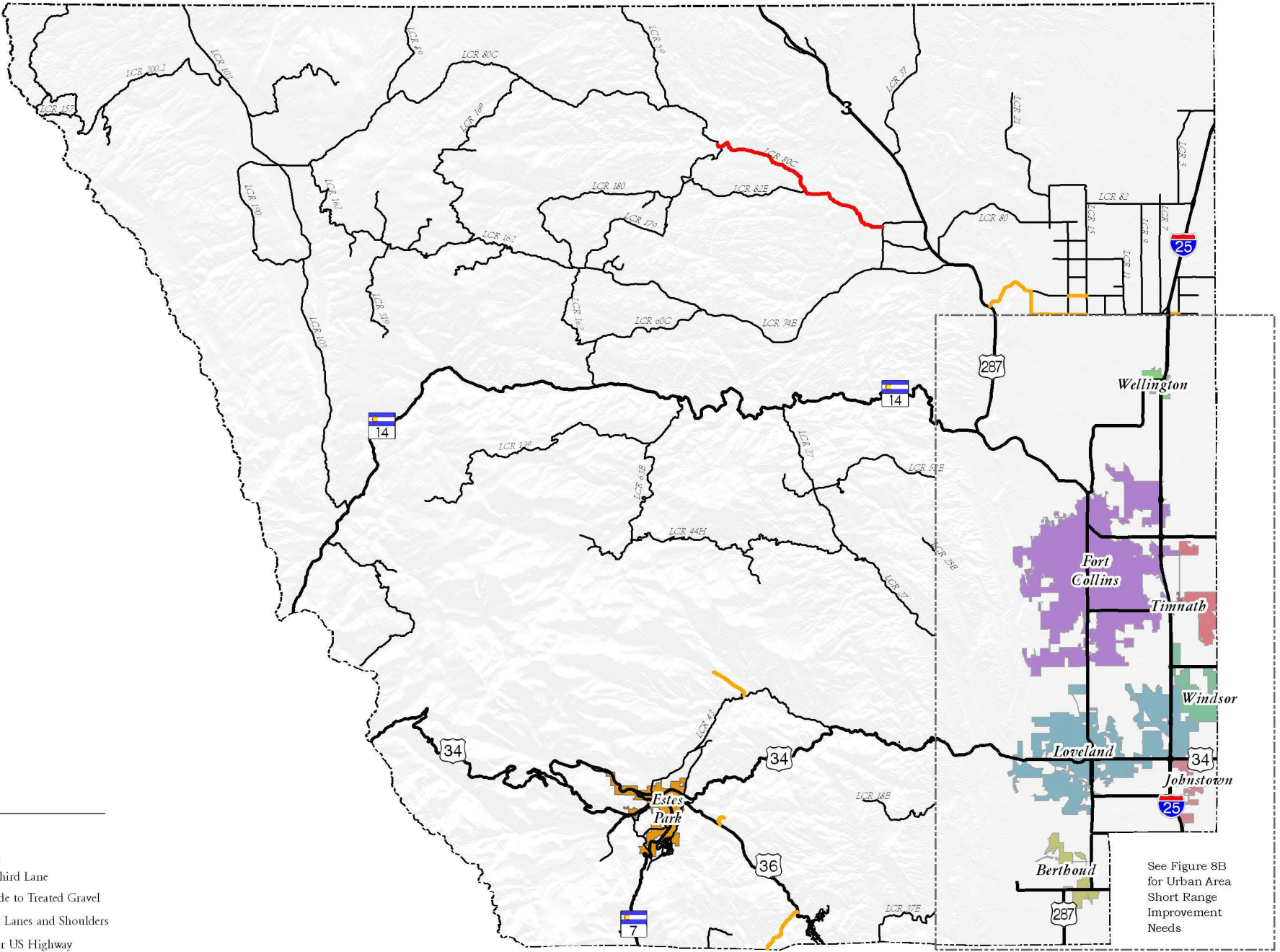
The inventory of existing roadway conditions indicates that more than half of the roads in the County are currently unpaved. Using the capacity criteria described in Section II-E, 37.7 miles on the major roadway system have been identified as requiring paving. These segments are shown on **Figures 7A and 7B**. In addition, 1.3 miles of local roads have volumes that require paving to meet current standards.

Lane and Shoulder Widening

As an alternative to adding lanes to two lane roads, it was determined that capacity requirements on several road segments could be met by widening the travel lanes and shoulders. Approximately 7.1 miles of road will be able to meet the current capacity demands with this upgrade.

Roadway Widening

Where traffic volumes currently exceed the capacity of full-width two-lane roadways, two widening options were considered: adding a third lane and widening to a full four-lane roadway. One roadway segment currently has a volume that exceeds the capacity of full-width two-lane roadways, and has been identified as requiring widening to three lanes. This segment is approximately ½ mile. The various segments and their type of needed improvement are shown graphically on **Figures 7A and 7B**.



Legend

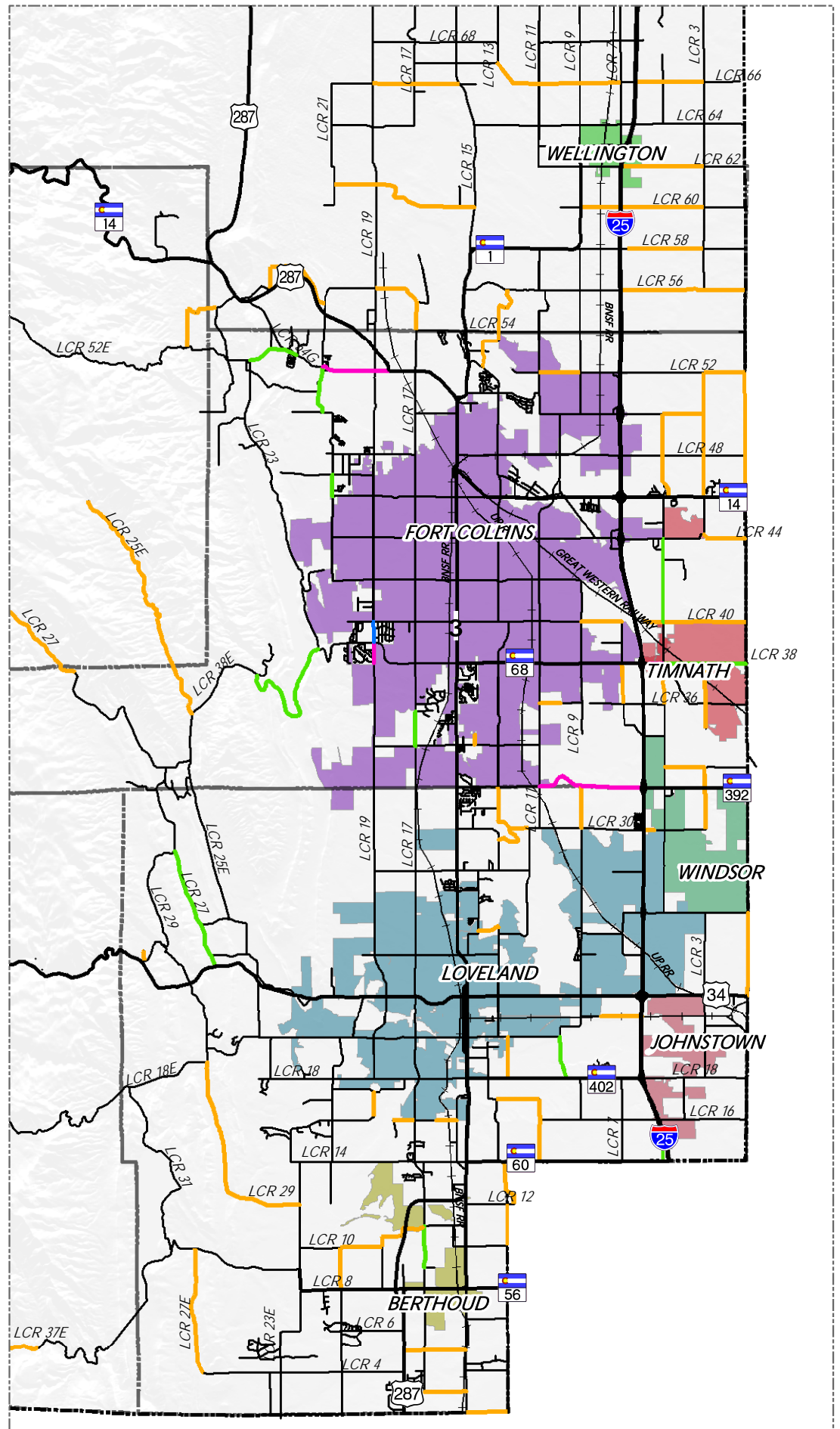
- Pave
- Widen
- Add Third Lane
- Upgrade to Treated Gravel
- Widen Lanes and Shoulders
- State or US Highway
- Other Roads
- Larimer County



North

See Figure 8B
for Urban Area
Short Range
Improvement
Needs

Figure 7A
Short Range Roadway Improvement Needs



Legend

- Pave
- Widen
- Add Third Lane
- Upgrade to Treated Gravel
- Widen Lanes and Shoulders
- State or US Highway
- Other Roads
- Larimer County



Figure 7B

Short Range Roadway Improvement Needs

A summary of the short range improvement needs and the resulting estimated construction costs are provided in **Table 8**.

Table 8. Short Range Roadway Improvement Needs

Improvement Type	# Of Projects	Project Mileage	Estimated Cost
Major Roads			
Upgrade to Treated Gravel	5	26.4	\$13,220,000
Paving (Current & Planned Major Roads)	29	37.7	\$46,167,000
Widen Lanes & Shoulder	7	7.1	\$8,995,000
Additional Lanes	1	0.5	\$1,439,000
<i>Subtotal Major Roads</i>	42	71.7	\$69,821,000
Local Roads			
Upgrade to Treated Gravel	2	1.9	\$942,000
Paving	2	1.3	\$2,425,000
<i>Subtotal Local Roads</i>	4	3.2	\$3,367,000
Total	46	74.9	\$73,188,000

IV. LONG RANGE TRANSPORTATION SYSTEM

A. Growth in the County

In order to identify potential improvement projects for the transportation system in Larimer County, it is important to first understand the nature and volume of traffic in the County in the future. The analysis of future traffic volumes in Larimer County is based on the 2030 regional travel demand model developed by the North Front Range Metropolitan Planning Organization (NFR MPO), the Estes Valley Transportation Alternatives Study (Felsburg Holt & Ullevig, April 2003) and information from the Colorado State Demographer.

The NFR travel demand model covers the urban portion of Larimer County and generally extends west to CR 27 and north to Weld County Road 88. The model divides the NFR into 815 transportation analysis zones (TAZs), 508 of which are in Larimer County. The traffic modeling process assigns different trip generation characteristics to households with various income levels, as well as to employment in the production, retail and service sectors. The model includes household and employment forecasts for 2030 by TAZ, along with baseline household and employment data for the year 2000. Within the NFR model area of Larimer County, the number of households is expected to increase from 91,190 in 2000 to 174,286 in 2030. This growth represents an approximate annual growth rate of 2.2% per year. These household numbers can be converted to population using the Larimer County average household size of 2.52 (per the Colorado State Demographer).

The Estes Valley Transportation Alternatives Study shows a population of 11,034 in 2000 for the Estes Valley (which extends beyond the City of Estes Park) and a forecasted buildout population of 19,000. Assuming that the Estes Valley will be built out by 2030, the result is an annual growth rate of approximately 1.83%.

Larimer County as a whole had a population of 253,130 in 2000. The Colorado State Demographer estimates an increase of approximately 1.87% per year over the thirty year time horizon of this plan. This growth rate was applied to areas outside of the NFR model area and the Estes Valley.

Information from these three sources can be combined to estimate the total 2030 population in Larimer County, as shown in **Table 9**. Overall, the County is estimated to have a population of nearly 480,000 in 2030, representing an overall growth rate of 2.15% per year.

Table 9. Larimer County Population Forecasts

	2000	2030	Annual Growth Rate
Within NFR Model Area	229,799	439,201	2.2%
Estes Valley	11,034	19,000	1.8%
Remainder of Larimer County	12,297	21,438	1.9%
Larimer County Total	253,130	479,639	2.2%
Unincorporated Larimer County (Approximate Area)	52,800	126,600	3.0%

B. 2030 Traffic Volume Projections

The 2030 travel demand forecasts were derived using a combination of the NFR travel demand model and the growth rates identified in **Table 9**. For all roadways included in the NFR model area, the 2030 forecasts were taken directly from the travel demand model. Because the NFR model is focused on the entire region, some of the roads in the Larimer County major roadway system are not included in the model. For these roads, an annual growth rate of 2.2% was applied to the existing traffic volumes to forecast the 2030 daily traffic volumes. For all roadways outside of the NFR model area, an annual growth rate of 1.85% (average of Estes Valley and State Demographer’s growth rates) was applied to the existing traffic volumes to forecast the 2030 daily traffic volumes. The resulting 2030 daily traffic volume forecast ranges are shown on **Figures 8A and 8B**. Overall, the vehicle miles of travel on the County roadway network are forecast to almost double over the 25 year time horizon (a 95% increase). Specific traffic volume forecasts by roadway segment are included in **Appendix A**.

C. 2030 Volume to Capacity Ratios

As described previously, volume to capacity ratio (v/c) is a planning level measure of the level of service experienced by the roadway user. The v/c ratio on each segment of the major roadway system was calculated using the forecasted year 2030 traffic volumes and the short-range capacities, as defined in Section II-E. Short-range capacities reflect the existing roadway or, if a short-range improvement was identified, the improved capacity. The results of the v/c analysis indicate that, without improvements to the existing roadway network, many roadway segments throughout the County are projected to operate at above capacity conditions.

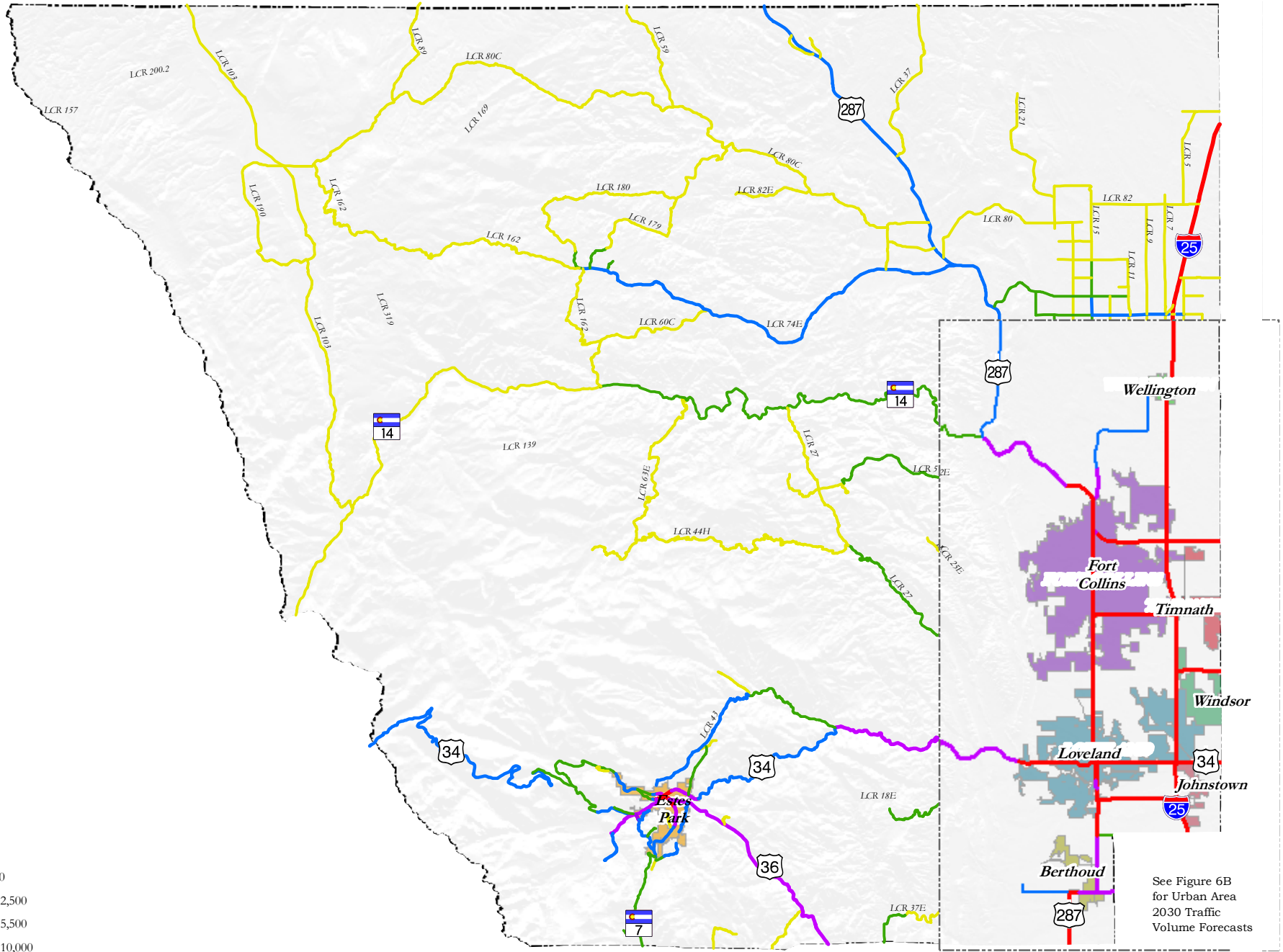
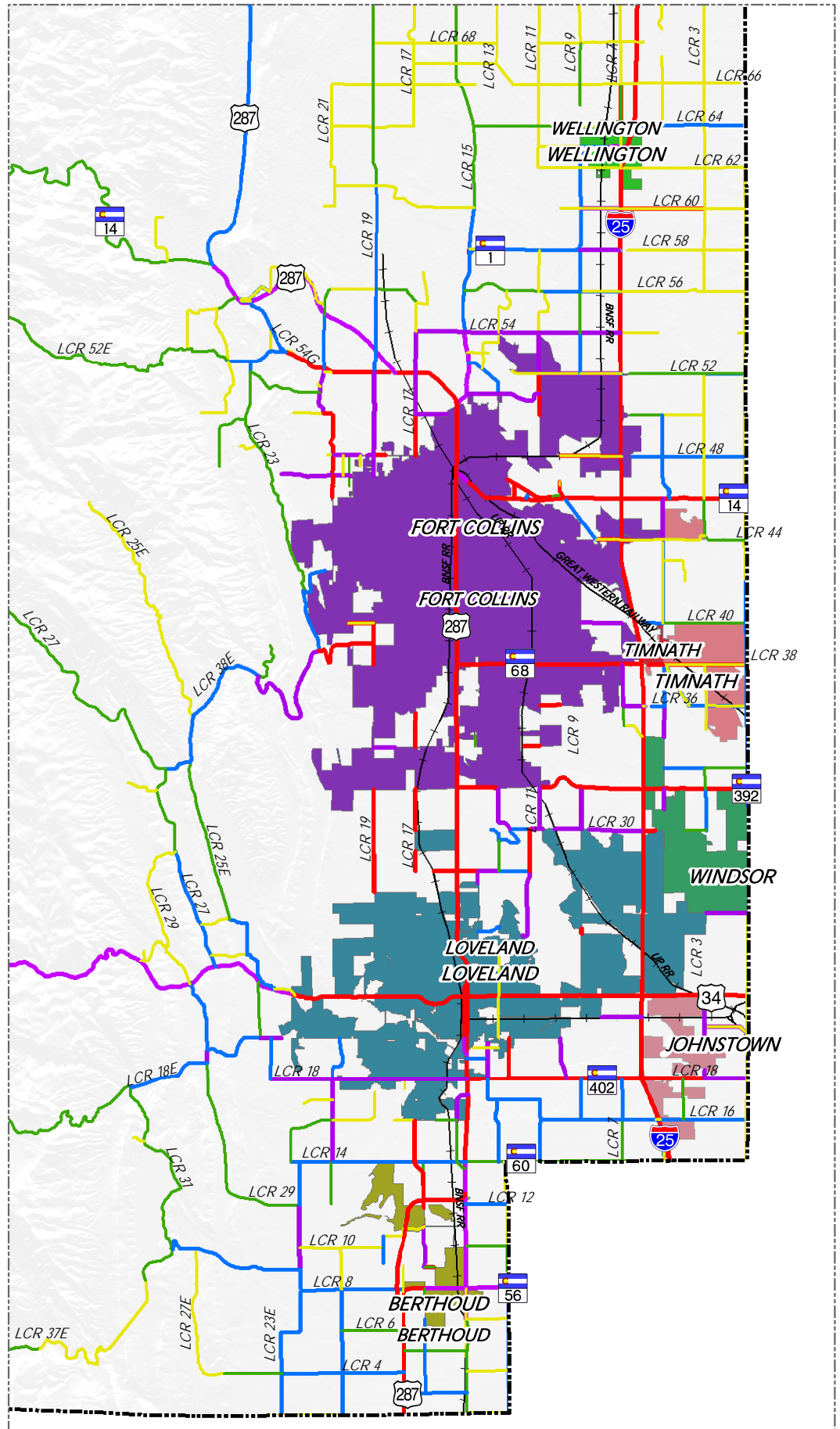


Figure 8A
2030 Traffic Volume Forecasts





Legend

2030 Volume Forecasts

- < 1,000
- 1,001 - 2,500
- 2,501 - 5,500
- 5,501 - 10,000
- > 10,000

Larimer County

Figure 8B

2030 Traffic Volume Forecasts



V. IDENTIFICATION OF LONG RANGE IMPROVEMENT NEEDS

A. Roadway Improvement Projects

Capacity-driven roadway improvement needs were identified for the long range future (through year 2030) in a similar manner as short range improvement needs. **Figures 9A and 9B** show long range capacity driven roadway improvement needs, including roadway paving projects and widening projects (additional lanes). These project needs are in addition to those needs identified previously that are associated with existing traffic levels.

Upgrade Native Surface Roads to Treated Gravel Roads

Eleven native surfaced roadways have forecasted volumes greater than their capacity. These eleven segments are approximately 49.6 miles in length and will be able to meet the 2030 demand when they are upgraded to treated gravel surfaces.

Roadway Paving Projects

Eighty segments of the major County roadway system are forecast to have traffic levels requiring paving by 2030, comprising 115.8 roadway miles. Additionally, ten segments of local roads, comprising approximately 12.9 roadway miles, are forecast to require paving by 2030.

Lane and Shoulder Widening

Eighteen road segments comprising approximately 12 miles have been identified for receiving lane and shoulder widening. With this improvement, those segments will be able to meet 2030 traffic volume demands.

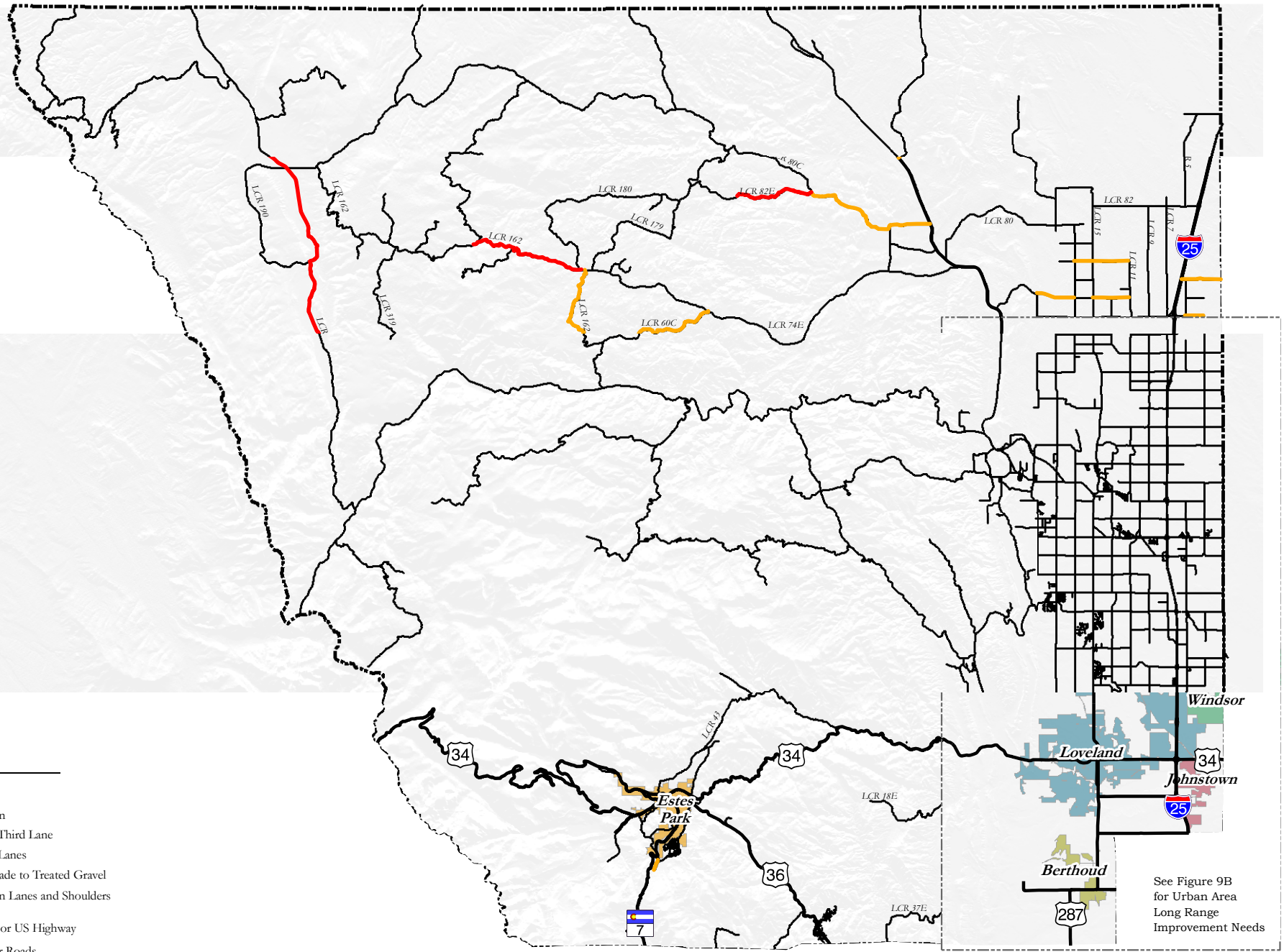
Roadway Widening

Twenty two-lane roadway segments have been forecast to require widening to three or four lanes by 2030 to accommodate traffic growth at desired levels of service. These 20 projects total approximately 15.6 miles.

A summary of the long range improvement needs and the resulting estimated construction costs are provided in **Table 10**. These projects and costs are in addition to the projects shown for the Short Range.

Legend

- Pave
- Widen
- Add Third Lane
- Add Lanes
- Upgrade to Treated Gravel
- Widen Lanes and Shoulders
- State or US Highway
- Other Roads
- Larimer County



See Figure 9B
for Urban Area
Long Range
Improvement Needs

Figure 9A
Long Range Roadway Improvement Needs



Table 10. Long Range Roadway Improvement Needs

Improvement Type	# Of Projects	Project Mileage	Estimated Cost
Major Roads			
Upgrade to Treated Gravel	8	38.3	\$19,162,000
Paving (Current & Planned Major Roads)	80	115.8	\$126,113,000
Widen Lanes & Shoulder	18	12.0	\$13,400,000
Additional Lanes	20	15.6	\$55,283,000
<i>Subtotal Major Roads</i>	126	181.7	\$213,958,000
Local Roads			
Upgrade to Treated Gravel	3	11.3	\$5,656,000
Paving	10	12.9	\$15,598,000
<i>Subtotal Local Roads</i>	13	24	\$21,254,000
Total	139	205.9	\$235,212,000

B. New Roads

City, town, county sub-area, and corridor transportation plans were reviewed to identify new roads that are planned in unincorporated parts of the county and whose needs are directly related to anticipated Larimer County development. **Table 11** shows the new roads and their estimated construction costs.

Table 11. New Roads

Transportation Plan	Road	From/To	Length (Miles)	Road Type	Estimated Cost
Town of Wellington Transportation Master Street Plan	Ronald Reagan Ave.	0.25 miles west of CR 9 to 0.50 miles east of CR 9	0.75	Minor Collector	\$1,390,000
	Clinton Ave.	SH 1 to 0.50 miles east of CR 9	0.5	Minor Collector	\$925,000
1998 Larimer County Transportation Plan	CR 32	SH 287 to CR 19	2.0	Arterial	\$3,700,000
	CR 16	CR 15 to SH 287	0.1	Minor Collector	\$185,000
	CR 82	CR 15/82 to CR 80	1.5	Minor Collector	\$2,775,000
	CR 37E	CR 37E to CR 31	2.0	Minor Collector	\$3,700,000
North Front Range 2030 Regional Transportation Plan	CR 5	CR 20E to SH 60	3.5	Arterial	\$4,475,000
Total					\$19,150,000

C. Summary of Roadway Improvement Needs

There are about 75 miles of road segments in Larimer County that currently operate above capacity based on existing traffic levels. Short-range road improvement needs to provide needed capacity total about \$73,200,000.

With the anticipated growth in Larimer County over the next 25 years, it is estimated that an additional 206 miles of road segments will need improvements to meet capacity requirements. The estimated cost for these improvements is \$235,212,000. Other new planned roadways, shown in **Table 11**, total about \$19,150,000, which brings the total long term cost to about \$254,362,000. **Table 12** summarizes the cost estimated for roadway improvements.

Table 12. Cost Summary

Scenario	# Of Projects	Project Mileage	Estimated Cost
Current Roadway Improvement Needs	46	74.9	\$73,188,000
Long-Range Roadway Improvement Needs	139	206	\$235,212,000
New Roads	7	10.5	\$19,150,000
<i>Subtotal Long-Range and New Roads</i>	<i>146</i>	<i>216.5</i>	<i>\$254,362,000</i>
Total Improvement Needs	192	291.4	\$327,550,000

D. Bicycle Facilities

In April 2000, Colorado State Parks completed the *Colorado Front Range Trail Corridor Plan*. The plan calls for a continuous trail that will link Colorado's front range from New Mexico to Wyoming. The trail will connect existing and planned trail systems to the new trail corridors to provide a complete trail network connecting the population centers throughout the front range. The Front Range Trail corridor will extend through Larimer County, connecting from Lyons to Loveland, Fort Collins and north toward Cheyenne. Larimer County should continue to work with the Colorado State Parks to develop this trail corridor and to provide links from other trails to the Front Range Trail.

The North Front Range Metropolitan Planning Organization (NFR MPO) has identified Regionally Significant Corridors throughout the region. Each of these corridors is considered multi-modal, which means they could be used for bicycle and pedestrian purposes. The bicycle/pedestrian-specific Regionally Significant Corridors in the NFR MPO follow the major rivers including the Poudre River, Platte River, Big Thompson River, Little Thompson River and Spring Creek. The *North Front Range 2030 Regional Transportation Plan* and the *Upper Front Range 2030 Regional Transportation Plan* each identify bicycle and pedestrian projects in Larimer County within the Fiscally Constrained and Vision Plans.

E. Future Transit System

As described in Section IV-A, Larimer County is expected to increase from approximately 250,000 to 480,000 people by the year 2030. In addition, the age of the population in Larimer County is increasing. In 2000 10 percent of the population was aged 65 or older; by 2030 17 percent of the population is expected to be 65 or older. These changing demographics will increase demand for transit services both within Larimer County and between Larimer County and neighboring communities.

Increasing gas prices can also impact demand for transit services. Communities throughout the US have experienced growth in ridership in excess of 10% over the last year; much of this has been attributed to the increase in the price of gas.

At a minimum, each community currently providing transit service should continue to provide service. It is more likely that with the growth in population anticipated, expanding the existing services will be necessary to meet community demand. It will be important that Larimer County work with the communities to provide coordinated rural and regional services.

Travel demand projections provided by the North Front Range Metropolitan Planning Organization and the North I-25 Environmental Impact Statement² indicate that the US 287 corridor, today and in the future, is one of highest volume travel corridors in Larimer County. Larimer County and the communities along this corridor should plan to address this demand through transit as well as roadway improvements. Transit improvements along the corridor may include increasing the frequency of the regional FoxTrot service and extending the service south to Longmont.

Another option for addressing mobility along the US 287 corridor could be commuter rail. The North I-25 EIS has identified the BNSF rail, which parallels the US 287 corridor in northern Colorado, as the route location of choice for a commuter rail service. The rail corridor being evaluated includes rail stations in Fort Collins, Loveland, Berthoud and Longmont. In Longmont, riders could transfer to the planned FasTracks rail line to travel to Boulder and then into Denver or stay on the train to connect into the planned FasTracks North Metro rail line traveling along the east side of I-25 into downtown Denver.

Larimer County should plan to:

- ▶ Support increased and enhanced FoxTrot service
- ▶ Preserve right of way along the BNSF rail line
- ▶ Facilitate coordination of rural service providers
- ▶ Support intercity service between Larimer County communities
- ▶ Support regional services from Larimer County communities to Denver, Boulder, Longmont, Greeley and Windsor.

² Currently being conducted by CDOT Region 4 in conjunction with the Federal Highway Administration and the Federal Transit Administration.

VI. GUIDING PRINCIPLES AND IMPLEMENTING STRATEGIES

Following are the guiding principles, along with strategies for implementing those principles, contained in the Transportation section of the *Larimer County Master Plan*.

- ▶ **TR-1 The Larimer County transportation planning process shall complement the development patterns and principles of the Master Plan.**
 - **TR-1-s1** The Functional Road Classification Map shall be used as the official future roadway plan for the County.
 - **TR-1-s2** The Land Use Code shall establish roadway standards that enhance capacity and safety, improve air quality and aesthetics and implement the development patterns of the Land Use Framework Map.
 - **TR-1-s3** County road projects shall be designed and constructed in a manner that minimizes the impact on water quality and sensitive environmental areas and considers aesthetics.

- ▶ **TR-2 New development shall occur only where existing transportation facilities are adequate or where necessary improvements will be made as part of the development project.**
 - **TR-2-s1** Adequate facilities and service levels for transportation shall be clearly defined in the Land Use Code. In Growth Management Areas, service level standards shall reflect those of the adjacent municipality. In other areas, standards shall be based on the density and intensity of the use.
 - **TR-2-s2** The Land Use Code shall establish traffic impact requirements to identify the need for improvements created by future development in order to meet adopted level of service standards.

- ▶ **TR-3 New development shall pay its equitable share for necessary improvements to the County transportation system.**
 - **TR-3-s1** The Land Use Code shall require construction of improvements identified through a traffic impact study.
 - **TR-3-s2** The Land Use Code shall include a traffic improvement fee to support other future improvements to the County transportation system made necessary by the impact of the development, including cumulative impacts.
 - **TR-3-s3** The Land Use Code shall establish a mechanism to allow a party who initially funds an improvement to be reimbursed by future developments that also impact that facility.

- ▶ **TR-4 Larimer County shall encourage the development and use of alternative modes of transportation.**
 - **TR-4-s1** Larimer County will continue to participate in cooperative efforts with cities and counties in the region to develop a preferred transit system within Growth Management Areas and between cities and towns, consistent with the adopted Transit Development Plan.
 - **TR-4-s2** Larimer County shall establish a bicycle plan that recognizes the need to serve both commuters and recreational users and that coordinates with the plans of adjoining cities and counties.
 - **TR-4-s3** Larimer County shall support the regional Travel Demand Management (TDM) program by encouraging all major employers to adopt a TDM program and by adopting incentives for promoting use of alternative modes of transportation and for implementing telecommuting programs.
 - **TR-4-s4** Larimer County shall continue to support the study and development of commuter rail service in the Northern Front Range.

- ▶ **TR-5 Larimer County shall establish a Capital Improvement Program for County transportation facilities.**
 - **TR-5-s1** The Capital Improvement Program shall identify a methodology for prioritizing projects which emphasizes the importance of maintaining the existing roadway system.
 - **TR-5-s2** The Capital Improvement Plan for roadway maintenance and improvement shall consider consistency with the Master Plan as an element of project prioritization.
 - **TR-5-s3** The Capital Improvement Program shall identify methods to share costs with adjacent cities and other governmental entities.
 - **TR-5-s4** The Capital Improvement Program shall consider funding for alternative transportation mode projects including facilities for bicycles and transit.



Transportation Plan

APPENDIX A ROADWAY INVENTORY

APPENDIX A - ROAD INVENTORY

Larimer County Road	Section	FROM	TO	Func Class	Juris.	UGA	Regional CR?	Area Type	ADT	Date	2030 ADT	Forecast Source	Length (MI)	Curr VMT	2030 VMT	Road Surface	Width (FT)	Lane Qty.	Shld Width	Capacity (VPD)	Current V/C	Short-Range Needs	Short Range Costs	Improved Capac (VPD)	2030 V/Existing Capacity	2030 V / C	2030 Needs	2030 Improved Capacity	Long Term Improvement Cost
LCR 2	002E	US 287	CR 17	Major Collector	LCRB	NO	NO	R	1,656	2004	5,200	NFR Model	0.50	833	2,602	Paved - High Type Bituminous	24	2	4	8,500	0.19			8,500	0.61	0.61		8,500	
	002E	CR 17	CR 15	Major Collector	LCRB	NO	NO	R	876	2004	5,200	NFR Model	1.00	877	5,177	Paved - Low Type Bituminous	24	2	3	400	2.19	Pave	\$1,001,000	10,000	12.93	0.52		10,000	
	002H	LONGS PEAK PARK LOT	SH 7	Local Roads	LCRB	NO	NO	R	702	2003	1,300	Growth Factor	1.00	700	1,260	Paved - High Type Bituminous	24	2	4	8,500	0.08			8,500	0.15	0.15		8,500	
LCR 3	003	CR 18	JOHNSTOWN CL	Minor Arterial	LCRB	NO	NO	U	129	2003	8,200	NFR Model	0.21	27	1,724	Gravel	20	2	0	400	0.32			400	20.52	20.52	Pave	15,300	\$304,500
	003	JOHNSTOWN CL	JOHNSTOWN CL	Minor Arterial	LCRB	NO	NO	U	125	2003	8,700	NFR Model	0.21	26	1,819	Gravel	20	2	0	400	0.31			400	21.66	21.66	Pave	15,300	\$304,500
	003	JOHNSTOWN CL	CR 20C	Minor Arterial	LCRB	NO	NO	U	121	2003	8,700	NFR Model	0.61	73	5,241	Gravel	20	2	0	400	0.30			400	21.66	21.66	Pave	15,300	\$877,250
	003	CR 20C	US 34	Minor Arterial	LCRB	NO	NO	R	131	2003	12,000	NFR Model	0.78	102	9,365	Gravel	24	2	0	400	0.33			400	30.02	30.02	Add Third Lane	15,400	\$2,223,000
	003	CR 30	SH 392	Major Collector	LCRB	NO	NO	U	206	2003	3,100	NFR Model	1.01	208	3,095	Gravel	23	2	0	400	0.52			400	7.66	7.66	Pave	15,300	\$1,464,500
	003	SH 392	SURF CHG	Minor Collector	LCRB	NO	NO	U	650	2003	1,900	NFR Model	0.35	228	669	Paved - High Type Bituminous	24	2	2	10,700	0.06			10,700	0.18	0.18		10,700	
	003	SURF CHG	CR 32E	Minor Collector	LCRB	NO	NO	U	200	2003	1,900	NFR Model	0.15	30	287	Gravel	22	2	0	400	0.50			400	4.78	4.78	Pave	15,300	\$217,500
	003	Private Drive	TIMNATH CL	Local Roads	LCRB	NO	NO	R	40	2003	70	Growth Factor	0.10	4	7	Gravel	21	0	0	400	0.10			400	0.18	0.18		400	
	003	TIMNATH CL	SH 14	Major Collector	LCRB	NO	NO	R	209	2003	1,100	NFR Model	0.50	105	574	Paved - Low Type Bituminous	24	2	0	400	0.52			400	2.87	2.87	Pave	10,000	\$500,000
	003	SH 14	CR 48	Major Collector	LCRB	NO	NO	R	497	2003	750	NFR Model	0.75	373	574	Gravel	0	2	0	400	1.24	Pave	\$750,000	10,000	1.91	0.08		10,000	
	003	CR 48	CR 50	Major Collector	LCRB	NO	NO	R	286	2003	500	Growth Factor	1.00	287	516	Gravel	24	2	1	400	0.72			400	1.29	1.29	Pave	10,000	\$1,003,000
	003	CR 50	CR 52	Major Collector	LCRB	NO	NO	R	286	2003	850	NFR Model	1.01	288	856	Gravel	24	2	1	400	0.72			400	2.13	2.13	Pave	10,000	\$1,007,000
	003	CR 56	CR 58	Major Collector	LCRB	NO	NO	R	96	2004	150	Growth Factor	1.01	97	171	Gravel	24	2	0	400	0.24			400	0.42	0.42		400	
	003	CR 58	CR 60	Major Collector	LCRB	NO	NO	R	96	2004	150	Growth Factor	1.01	97	171	Gravel	24	2	0	400	0.24			400	0.42	0.42		400	
	003	CR 60	CR 62	Major Collector	LCRB	NO	NO	R	82	2004	150	Growth Factor	0.99	81	143	Gravel	24	2	0	400	0.21			400	0.36	0.36		400	
	003	CR 62	CR 64	Major Collector	LCRB	NO	NO	R	82	2004	150	Growth Factor	1.05	86	151	Gravel	24	2	0	400	0.21			400	0.36	0.36		400	
	003	CR 64	CR 66	Major Collector	LCRB	NO	NO	R	192	2004	350	Growth Factor	1.01	193	340	Gravel	24	2	0	400	0.48			400	0.85	0.85		400	
	003	CR 66	CR 70	Major Collector	LCRB	NO	NO	R	171	2002	300	Growth Factor	2.02	345	635	Gravel	24	2	0	400	0.43			400	0.79	0.79		400	
	003E	CR 16	CR 18	Major Collector	LCRB	NO	NO	R	83	2003	1,800	NFR Model	1.00	83	1,855	Gravel	24	2	2	400	0.21			400	4.62	4.62	Pave	10,000	\$1,003,000
	003E	CR 42 (NCM)	CR 42E	Local Roads	LCRB	NO	NO	R	90	2003	150	Growth Factor	0.51	46	83	Gravel	22	2	0	400	0.23			400	0.40	0.40		400	
003F	CR 36	CR 38	Minor Collector	LCRB	NO	NO	R	218	2002	400	Growth Factor	1.15	251	461	Paved - High Type Bituminous	19	2	2	5,000	0.04			5,000	0.08	0.08		5,000		
LCR 4	004	CR 27E	SURF CHG	Minor Collector	LCRB	NO	NO	R	400	2004	700	Growth Factor	0.49	196	345	Gravel	24	2	0	400	1.00			400	1.76	1.76	Pave	10,000	\$490,000
	004	SURF CHG	CR 23E	Minor Collector	LCRB	NO	NO	R	1,100	2004	1,900	Growth Factor	1.39	1,529	2,692	Paved - High Type Bituminous	24	2	4	8,500	0.13			8,500	0.23	0.23		8,500	
	004	CR 23E	CR 21	Major Collector	LCRB	NO	NO	R	1,890	2004	3,300	Growth Factor	1.47	2,782	4,899	Paved - High Type Bituminous	24	2	3	7,000	0.27			7,000	0.48	0.48		7,000	
	004	CR 21	US 287	Major Collector	LCRB	NO	NO	R	1,814	2004	3,200	Growth Factor	1.50	2,717	4,785	Paved - High Type Bituminous	24	2	3	7,000	0.26			7,000	0.46	0.46		7,000	
	004	CR 15	CR 90A	Minor Collector	LCRB	NO	NO	R	78	2004	150	Growth Factor	1.01	79	139	Gravel	20	2	0	400	0.20			400	0.34	0.34		400	
	004E	US 287	CR 17	Local Roads	LCRB	NO	NO	R	558	2004	1,100	NFR Model	0.50	281	569	Paved - High Type Bituminous	24	2	2	7,000	0.08			7,000	0.16	0.16		7,000	
004E	CR 17	CR 15A	Local Roads	LCRB	NO	NO	R	558	2004	1,100	NFR Model	1.00	556	1,129	Gravel	24	2	0	400	1.40	Pave	\$997,000	10,000	2.83	0.11	0	10,000	\$0	
LCR 5	005	SH 60	Begin I-25 West Frontage	Local Roads	LCRB	NO	NO	R	366	2003	650	Growth Factor	0.57	209	377	Paved - High Type Bituminous	22	2	0	4,200	0.09			4,200	0.16	0.16		4,200	
	005	WINDSOR CL	SH 392	Minor Arterial	LCRB	YES	YES	U	3,296	2003	9,500	NFR Model	0.50	1,648	4,761	Paved - High Type Bituminous	24	2	4	13,100	0.25			13,100	0.73	0.73		13,100	
	005	CR 34C	CR 36	Minor Arterial	LCRB	NO	YES	R	1,550	2002	7,500	NFR Model	0.76	1,183	5,743	Paved - High Type Bituminous	24	2	1	5,000	0.31			5,000	1.51	1.51	Widen Lanes & Shoulder	10,000	\$763,000
	005	CR 36	CR 38	Minor Arterial	LCRB	NO	YES	R	977	2002	3,500	NFR Model	1.02	997	3,616	Paved - High Type Bituminous	24	2	4	8,500	0.11			8,500	0.42	0.42		8,500	
	005	TIMNATH CL	SH 14	Minor Arterial	LCRB	YES	YES	U	1,610	2003	6,400	NFR Model	0.25	403	1,609	Paved - High Type Bituminous	24	2	1	7,700	0.21			7,700	0.84	0.84		7,700	
	005	SH 14	CR 48 (VINE DR)	Minor Collector	LCRB	NO	NO	R	252	2003	2,700	NFR Model	0.50	126	1,332	Gravel	22	2	0	400	0.63			400	6.66	6.66	Pave	10,000	\$500,000
	005	CR 48 (VINE DR)	SURF CHG	Major Collector	LCRB	NO	NO	R	219	2003	2,800	NFR Model	0.50	110	1,384	Paved - High Type Bituminous	24	2	4	8,500	0.03			8,500	0.33	0.33		8,500	
	005	SURF CHG	CR 50	Major Collector	LCRB	NO	NO	R	219	2003	2,800	NFR Model	0.50	110	1,384	Gravel	22	2	0	400	0.55			400	6.92	6.92	Pave	10,000	\$500,000
	005	CR 64	CR 66	Minor Collector	LCRB	NO	NO	R	78	2004	150	Growth Factor	1.01	78	138	Gravel	22	2	0	400	0.20			400	0.34	0.34		400	
	005	CR 66	GATE	Local Roads	LCRB	NO	NO	R	78	2004	150	Growth Factor	0.67	52	92	Gravel	22	2	0	400	0.20			400	0.34	0.34		400	
	005	GATE	CR 70	Local Roads	LCRB	NO	NO	R	102	2002	200	Growth Factor	0.74	75	139	Gravel	18	2	0	400	0.26			400	0.47	0.47		400	
	005	CR 70	CR 72	Minor Collector	LCRB	NO	NO	R	30	1986	80	Growth Factor	1.01	30	79	Gravel	18	2	0	400	0.08			400	0.20	0.20		400	
	005	CR 72	CR 74	Minor Collector	LCRB	NO	NO	R	37	2002	70	Growth Factor	0.97	36	66	Bladed	21	2	0	200	0.01			200	0.02	0.02		4,200	
005	CR 82	CR 92	Local Roads	LCRB	NO	NO	R	37	2002	70	Growth Factor	5.23	193	356	Gravel	24	2	1	400	0.09			400	0.17	0.17		400		
005J	CR 70	END	Local Roads	LCRB	NO	NO	R	57	2002	100	Growth Factor	0.65	37	68	Native	20	2	3	200	0.29			200	0.52	0.52		200		
LCR 6	006	CR 23E	CR 23	Major Collector	LCRB	NO	NO	R	2,964	2004	5,200	Growth Factor	0.46	1,355	2,385	Paved - High Type Bituminous	24	2	6	10,000	0.30								

APPENDIX A - ROAD INVENTORY

LCR	Section	FROM	TO	Func Class	Juris	UGA	Regional CR?	Area Type	ADT	Date	2030 ADT	Forecast Source	Length (MI)	Curr VMT	2030 VMT	Road Surface	Width (FT)	Lane Qty.	Shld Width	Capacity (VPD)	Current V/C	Short-Range Needs	Short Range Costs	Improved Capac (VPD)	2030 V/Existing Capacity	2030 V / C	2030 Needs	2030 Improved Capacity	Long Term Improvement Cost
	011	CR 56	SH 1	Minor Collector	LCRB	NO	NO	R	130	2004	250	Growth Factor	1.00	130	229	Gravel	23	2	0	400	0.33			400	0.57	0.57		400	
	011	CR 62	CR 62E	Minor Collector	LCRB	NO	NO	R	139	2004	850	NFR Model	0.49	68	424	Gravel	24	2	2	400	0.35			400	2.16	2.16	Pave	10,000	\$490,000
	011	CR 62E	CR 64	Minor Collector	LCRB	NO	NO	R	110	2004	200	Growth Factor	0.49	54	95	Gravel	24	2	2	400	0.28			400	0.48	0.48		400	
	011	CR 64	CR 66	Minor Collector	LCRB	NO	NO	R	110	2004	200	Growth Factor	1.00	110	193	Gravel	24	2	2	400	0.28			400	0.48	0.48		400	
	011	CR 66	CR 68	Minor Collector	LCRB	NO	NO	R	76	2004	150	Growth Factor	1.00	76	133	Gravel	24	2	3	400	0.19			400	0.33	0.33		400	
	011	CR 68	CR 70	Minor Collector	LCRB	NO	NO	R	65	2004	100	Growth Factor	1.00	65	115	Gravel	24	2	3	400	0.16			400	0.29	0.29		400	
	011	CR 70	CR 72	Minor Collector	LCRB	NO	NO	R	139	2002	250	Growth Factor	1.04	145	266	Gravel	24	2	3	400	0.35			400	0.64	0.64		400	
	011	CR 72	CR 76	Minor Collector	LCRB	NO	NO	R	139	2002	250	Growth Factor	1.99	276	508	Gravel	24	2	3	400	0.35			400	0.64	0.64		400	
	011C	CR 24E	CR 28	Minor Arterial	LCRB	YES	YES	U	3,938	2003	7,100	Growth Factor	1.55	6,104	10,985	Paved - High Type Bituminous	23	2	2	10,700	0.37			10,700	0.66	0.66		10,700	
	011C	CR 28	CR 30	Minor Arterial	LCRB	YES	YES	U	5,895	2003	10,600	Growth Factor	1.01	5,954	10,715	Paved - High Type Bituminous	24	2	6	15,300	0.39			15,300	0.69	0.69		15,300	
	011C	SH 14	CR 46E (LINCOLN)	Minor Collector	LCRB	YES	NO	U	1,773	2003	3,200	Growth Factor	0.19	337	606	Paved - High Type Bituminous	24	2	1	7,700	0.23			7,700	0.41	0.41		7,700	
011F	SH 14	CR 46E (LINCOLN)	Minor Collector	LCRB	YES	NO	U	6,752	2003	12,200	Growth Factor	0.36	2,431	4,374	Paved - High Type Bituminous	36	2	6	15,300	0.44			15,300	0.79	0.79		15,300		
011H	SH 402	LOVELAND CITY LIMITS	Minor Arterial	LCRB	YES	NO	U	8,000	2003	14,400	Growth Factor	0.66	5,280	9,502	Paved - Low Type Bituminous	24	2	1	400	20.00	Pave	\$957,000	15,300	35.99	0.94		15,300		
LCR 12	012	CR 29	CR 23	Major Collector	LCRB	NO	NO	R	1,165	2004	2,200	NFR Model	1.81	2,111	4,039	Paved - Low Type Bituminous	24	2	3	400	2.91	Pave	\$1,812,000	10,000	5.57	0.22		10,000	
	012	US 287	CR 904 SOUTH BOUND	Minor Collector	LCRB	NO	NO	R	198	2004	3,900	NFR Model	1.01	201	3,907	Gravel	24	2	3	400	0.50			400	9.64	9.64	Pave	10,000	\$1,013,000
	012	CR 904 SOUTH BOUND	CR 904 NORTH BOUND	Minor Collector	LCRB	NO	NO	R	175	2004	300	Growth Factor	0.17	29	52	Gravel	24	2	1	400	0.44			400	0.77	0.77		400	
LCR 13	013	SH 60	CR 16E	Major Collector	LCRB	YES	NO	U	567	2003	2,600	NFR Model	1.53	867	4,014	Paved - High Type Bituminous	22	2	3	10,000	0.06			10,000	0.26	0.26		10,000	
	013	CR 28 (EAST 57TH ST)	CR 30 EAST BOUND	Major Collector	LCRB	YES	NO	U	1,155	2003	2,200	NFR Model	0.75	866	1,632	Paved - High Type Bituminous	24	2	2	10,700	0.11			10,700	0.20	0.20		10,700	
	013	CR 30 EAST BOUND	CR 32	Major Collector	LCRB	NO	NO	U	1,800	2003	6,800	NFR Model	1.17	2,108	7,978	Paved - High Type Bituminous	24	2	1	7,700	0.23			7,700	0.88	0.88		7,700	
	013	CR 52H	CR 54 (DOUGLAS RD)	Minor Collector	LCRB	YES	NO	U	337	2004	600	Growth Factor	0.25	83	147	Gravel	24	2	1	400	0.84			400	1.48	1.48	Pave	15,300	\$358,150
	013	CR 54 (DOUGLAS RD)	CR 56	Minor Collector	LCRB	NO	NO	R	227	2004	400	Growth Factor	1.23	279	490	Gravel	24	2	1	400	0.57			400	1.00	1.00		400	
	013	CR 66E	CR 68	Minor Collector	LCRB	NO	NO	R	69	2002	150	Growth Factor	0.46	32	59	Gravel	22	2	0	400	0.17			400	0.32	0.32		400	
	013	CR 68	CR 70	Minor Collector	LCRB	NO	NO	R	69	2002	150	Growth Factor	1.05	72	133	Gravel	22	2	0	400	0.17			400	0.32	0.32		400	
	013	CR 70	CR 72	Minor Collector	LCRB	NO	NO	R	23	2002	40	Growth Factor	1.02	23	43	Gravel	24	2	0	400	0.06			400	0.11	0.11		400	
	013C	CR 16E	LOVELAND CL	Major Collector	LCRB	YES	NO	U	1,200	2004	4,300	NFR Model	0.19	228	809	Paved - High Type Bituminous	24	2	2	10,700	0.11			10,700	0.40	0.40		10,700	
	013C	SH 402	CR 18E (8TH ST SW)	Major Collector	LCRB	YES	NO	U	3,348	2001	5,800	NFR Model	0.51	1,697	2,955	Paved - High Type Bituminous	24	2	2	10,700	0.31			10,700	0.54	0.54		10,700	
	013C	CR 18E (8TH ST SW)	LOVELAND CITY LIMITS	Major Collector	LCRB	YES	NO	U	3,760	2003	6,800	Growth Factor	0.37	1,402	2,524	Paved - High Type Bituminous	24	2	2	10,700	0.35			10,700	0.63	0.63		10,700	
	013E	LOVELAND CL	CR 28	Minor Arterial	LCRB	YES	NO	U	5,450	2003	5,900	NFR Model	0.29	1,581	1,724	Paved - High Type Bituminous	24	2	3	10,700	0.51			10,700	0.56	0.56		10,700	
	013E	CR 52C (GREGORY RD)	CR 52H	Minor Collector	LCRB	YES	NO	U	316	2004	550	Growth Factor	0.64	202	356	Gravel	24	2	0	400	0.79			400	1.39	1.39	Pave	15,300	\$928,000
013F	TRILBY RD (CR 34)	LC HUMANE SOCIETY	Local Roads	LCRB	YES	NO	U	758	2003	1,400	Growth Factor	0.28	212	382	Paved - Low Type Bituminous	24	2	2	400	1.90	Pave	\$1,428,000	15,300	3.41	0.09	0	15,300	\$0	
LCR 14	014	CR 23 NORTH BOUND	CR 23 SOUTH BOUND	Minor Collector	LCRB	NO	NO	R	446	2004	3,900	NFR Model	0.20	90	795	Paved - High Type Bituminous	24	2	4	8,500	0.05			8,500	0.46	0.46		8,500	
	014	CR 23 SOUTH BOUND	CR 21 SB (LONE TREE)	Major Collector	LCRB	NO	NO	R	3,084	2004	3,900	NFR Model	0.75	2,322	2,965	Paved - High Type Bituminous	24	2	2	7,000	0.44			7,000	0.56	0.56		7,000	
	014	CR 21 SB (LONE TREE)	CR 21 NORTH BOUND	Major Collector	LCRB	NO	NO	R	3,084	2004	4,500	NFR Model	0.05	151	223	Paved - High Type Bituminous	24	2	2	7,000	0.44			7,000	0.65	0.65		7,000	
	014	CR 21 NB	CR 17	Major Collector	LCRB	YES	NO	U	1,907	2004	4,500	NFR Model	2.00	3,806	9,066	Paved - High Type Bituminous	24	2	3	10,700	0.18			10,700	0.42	0.42		10,700	
	014	CR 17	CR 15H	Minor Arterial	LCRB	YES	NO	U	2,854	2003	5,100	Growth Factor	0.21	585	1,053	Paved - High Type Bituminous	36	2	3	10,700	0.27			10,700	0.48	0.48		10,700	
014	CR 15H	CR 15 (GARFIELD)	Minor Arterial	LCRB	YES	NO	U	2,854	2003	5,100	Growth Factor	0.82	2,335	4,201	Paved - High Type Bituminous	24	2	3	10,700	0.27			10,700	0.48	0.48		10,700		
014	CR 15 (GARFIELD)	US 287	Minor Arterial	LCRB	YES	NO	U	2,854	2003	5,100	Growth Factor	0.19	534	960	Paved - High Type Bituminous	24	2	3	10,700	0.27			10,700	0.48	0.48		10,700		
LCR 15	015	CR 905	CR 2E	Major Collector	LCRB	NO	NO	R	1,112	2004	2,000	Growth Factor	0.50	559		Paved - High Type Bituminous	24	2	2	7,000	0.16			7,000	0.28	0.28		7,000	
	015	CR 2E	CR 4	Major Collector	LCRB	NO	NO	R	1,112	2004	2,000	Growth Factor	0.50	559	985	Paved - High Type Bituminous	24	2	2	7,000	0.16			7,000	0.28	0.28		7,000	
	015	CR 4	CR 15A	Major Collector	LCRB	NO	NO	R	1,112	2004	2,000	Growth Factor	0.37	414	728	Paved - High Type Bituminous	24	2	2	7,000	0.16			7,000	0.28	0.28		7,000	
	015	CR 15A	CR 6C	Major Collector	LCRB	NO	NO	R	1,112	2004	2,000	Growth Factor	0.89	990	1,743	Paved - High Type Bituminous	24	2	2	7,000	0.16			7,000	0.28	0.28		7,000	
	015	US 287	CR 14 (42ND ST SW)	Major Collector	LCRB	NO	NO	R	802	2003	1,400	Growth Factor	0.26	205	369	Paved - Concrete	18	2	2	2,400	0.13			2,400	0.23	0.23		6,400	
	015	CR 14 (42ND ST SW)	CR 16	Major Collector	LCRB	YES	NO	U	1,355	2003	2,400	Growth Factor	1.00	1,360	2,448	Paved - Concrete	18	2	2	3,700	0.14			3,700	0.24	0.24		10,000	
	015	LOVELAND CL	US 287	Major Collector	LCRB	YES	NO	U	3,510	2002	6,500	Growth Factor	0.33	1,158	2,130	Paved - High Type Bituminous	24	2	0	7,700	0.46			7,700	0.84	0.84		7,700	
	015	SH 1	CR 58	Major Collector	LCRB	NO	NO	R	2,410	2004	4,200	Growth Factor	0.18	436	768	Paved - High Type Bituminous	24	2	3	7,000	0.34			7,000	0.61	0.61		7,000	
	015	CR 58	CR 60	Major Collector	LCRB	NO	NO	R	2,410	2004	4,200	Growth Factor	0.99	2,381	4,193	Paved - High Type Bituminous	24	2	3	7,000	0.34			7,000	0.61	0.61			

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Larimer County Road	Section	FROM	TO	Func Class	Juris.	UGA	Regional CR?	Area Type	ADT	Date	2030 ADT	Forecast Source	Length (MI)	Curr VMT	2030 VMT	Road Surface	Width (FT)	Lane QTY.	Shld Width	Capacity (VPD)	Current V/C	Short-Range Needs	Short Range Costs	Improved Capac (VPD)	2030 V/Existing Capacity	2030 V / C	2030 Needs	2030 Improved Capacity	Long Term Improvement Cost	
	017	CR 70	CR 72	Minor Collector	LCRB	NO	NO	R	187	2002	350	Growth Factor	1.02	191	350	Gravel	24	2	1	400	0.47			400	0.86	0.86		400		
	017	CR 72	CR 74	Minor Collector	LCRB	NO	NO	R	187	2002	350	Growth Factor	0.99	185	340	Gravel	24	2	1	400	0.47			400	0.86	0.86		400		
	017	CR 74	CR 76	Minor Collector	LCRB	NO	NO	R	187	2002	350	Growth Factor	0.99	186	341	Gravel	24	2	1	400	0.47			400	0.86	0.86		400		
	017	CR 76	CR 78	Minor Collector	LCRB	NO	NO	R	81	2003	150	Growth Factor	0.99	80	145	Gravel	24	2	1	400	0.20			400	0.36	0.36		400		
	017	CR 78	CR 80	Minor Collector	LCRB	NO	NO	R	201	2003	350	Growth Factor	1.01	202	364	Paved - High Type Bituminous	24	2	1	5,000	0.04			5,000	0.07	0.07		5,000		
	017	CR 56	END PAVEMENT	Local Roads	LCRB	NO	NO	R	195	2004	350	Growth Factor	1.07	209	367	Paved - Low Type Bituminous	24	2	3	400	0.00			400	0.86	0.86		400		
	017C	CR 16H	14TH STREET	Minor Collector	LCRB	YES	NO	U	NA	0	N/A	Growth Factor	0.24	0		Gravel	23	2	0	400	0.00			400	0.00	0.00		400		
	017E	US 287	SH 56	Minor Collector	LCRB	NO	NO	R	NA	0	N/A	Growth Factor	0.08	0		Unknown	0	2	0	400	0.00			400	0.00	0.00		400		
LCR 18	018	CR 23E	CR 21	Major Collector	LCRB	NO	NO	R	2,587	2004	6,200	NFR Model	1.51	3,904	9,327	Paved - High Type Bituminous	24	2	4	8,500	0.30			8,500	0.73	0.73		8,500		
	018	I-25 E. FRONTAGE RD	CR 3E	Minor Arterial	LCRB	NO	YES	U	3,166	2003	13,900	NFR Model	0.92	2,913	12,773	Paved - High Type Bituminous	24	2	3	10,700	0.30			10,700	1.30	1.30	Widen Lanes & Shoulder	15,300	\$1,334,000	
	018	CR 3E	CR 3	Minor Arterial	LCRB	NO	YES	U	3,166	2003	10,000	NFR Model	0.50	1,596	5,060	Paved - High Type Bituminous	24	2	3	10,700	0.30			10,700	0.94	0.94		10,700		
	018	CR 3	CR 901	Minor Arterial	LCRB	NO	YES	U	3,166	2003	8,900	NFR Model	1.02	3,239	9,113	Paved - High Type Bituminous	24	2	3	10,700	0.30			10,700	0.83	0.83		10,700		
	018E	SURF CHG	CR 31	Minor Collector	LCRB	NO	NO	M	1,280	2004	2,100	Growth Factor	4.71	6,022	9,700	Paved - High Type Bituminous	23	2	2	5,800	0.22			5,800	0.36	0.36		5,800		
	018E	CR 31	CR 29	Major Collector	LCRB	NO	NO	M	2,061	2004	3,300	Growth Factor	2.05	4,225	6,805	Paved - High Type Bituminous	23	2	2	5,800	0.36			5,800	0.57	0.57		5,800		
	018E	US 287	CR 13C (ST LOUIS AV)	Major Collector	LCRB	YES	NO	U	1,997	2003	3,600	Growth Factor	0.50	1,002	1,804	Paved - High Type Bituminous	24	2	3	10,700	0.19			10,700	0.34	0.34		10,700		
	018H	WASHIN	ST TO CR 13C (ST LOUIS	Local Roads	LCRB	YES	NO	U	NA	0	N/A	Growth Factor	0.36	0		Paved - Low Type Bituminous	22	2	0	400	0.00			400	0.00	0.00		400		
	018H	CR 13C (ST LOUIS AV)	MADISON AVE	Local Roads	LCRB	YES	NO	U	NA	0	N/A	Growth Factor	0.14	0		Paved - High Type Bituminous	24	2	0	7,700	0.00			7,700	0.00	0.00		7,700		
	LCR 19	019	BERTHOUD CL	CR 10	Minor Collector	LCRB	NO	NO	R	250	2004	3,500	NFR Model	0.38	0		Gravel	24	2	2	400	0.00			400	8.68	8.68	Pave	10,000	\$376,000
019		CR 10	CR 10E	Major Collector	LCRB	NO	NO	R	249	2002	3,500	NFR Model	0.25	62	868	Gravel	24	2	2	400	0.62			400	8.68	8.68	Pave	10,000	\$250,000	
019		CR 16 WEST BOUND	CR 16 EAST BOUND	Minor Collector	LCRB	YES	NO	U	398	2004	650	NFR Model	0.25	98	154	Gravel	23	2	0	400	1.00			400	1.58	1.58	Pave	15,300	\$355,250	
019		CR 16 EAST BOUND	CR 16H	Minor Collector	LCRB	YES	NO	U	414	2004	750	Growth Factor	0.36	150	264	Gravel	23	2	0	400	1.04		Pave	\$524,900	15,300	1.82	0.05		15,300	
019		CR 28 (5TH ST)	FT COLLINS CL	Minor Arterial	LCRB	YES	YES	U	9,847	2002	14,600	NFR Model	2.00	19,694	29,112	Paved - High Type Bituminous	24	2	3	10,700	0.92			10,700	1.36	1.36	Widen Lanes & Shoulder	15,300	\$2,900,000	
019		FT COLLINS CL	CR 38E	Minor Arterial	LCRB	YES	YES	U	12,435	2003	18,000	NFR Model	0.51	6,292	9,108	Paved - High Type Bituminous	24	2	3	10,700	1.16	en Lanes & Shou	\$366,850	15,300	1.68	1.18	Add Third Lane	23,000	\$721,050*	
019		CR 38E (Harmony)	CR 40 (W HORSETOOTH)	Minor Arterial	LCRB	YES	YES	U	22,287	2003	24,800	NFR Model	0.51	11,255	12,512	Paved - High Type Bituminous	24	2	3	10,700	2.08	Add Third Lane	\$1,439,250	10,700	2.32	2.32	Add Lanes	32,000	\$2,575,500	
019		CR 46E (LAPORTE)	CR 48 (VINE DR)	Minor Arterial	LCRB	YES	YES	U	7,773	2003	9,100	NFR Model	0.50	3,894	4,574	Paved - High Type Bituminous	24	2	3	10,700	0.73			10,700	0.85	0.85		10,700		
019		CR 48 (VINE DR)	CR 54G (OLD 287)	Minor Arterial	LCRB	YES	YES	U	5,830	2004	6,800	NFR Model	2.01	11,689	13,664	Paved - Unknown	24	2	3	10,700	0.54			10,700	0.64	0.64		10,700		
019		CR 54G (OLD 287)	CR 56	Major Collector	LCRB	NO	NO	R	2,129	2004	2,700	NFR Model	2.01	4,277	5,458	Paved - High Type Bituminous	24	2	3	7,000	0.20			7,000	0.39	0.39		7,000		
019		CR 56	CR 60E	Major Collector	LCRB	NO	NO	R	1,817	2004	3,200	Growth Factor	2.49	4,515	7,951	Paved - High Type Bituminous	24	2	3	7,000	0.26			7,000	0.46	0.46		7,000		
019		CR 60E	CR 64	Major Collector	LCRB	NO	NO	R	1,216	2004	2,100	Growth Factor	1.41	1,710	3,011	Paved - High Type Bituminous	24	2	4	8,500	0.14			8,500	0.25	0.25		8,500		
019		CR 64	CR 66	Major Collector	LCRB	NO	NO	R	534	1990	1,300	NFR Model	1.04	554	1,348	Paved - High Type Bituminous	24	2	4	8,500	0.06			8,500	0.15	0.15		8,500		
019		CR 66	CR 68	Major Collector	LCRB	NO	NO	R	783	2004	1,400	Growth Factor	1.00	784	1,380	Paved - High Type Bituminous	24	2	4	8,500	0.09			8,500	0.16	0.16		8,500		
019		CR 68	CR 70	Major Collector	LCRB	NO	NO	R	783	2004	1,400	Growth Factor	1.00	785	1,383	Paved - High Type Bituminous	24	2	4	8,500	0.09			8,500	0.16	0.16		8,500		
019		CR 80	CR 21	Local Roads	LCRB	NO	NO	R	50	2003	90	Growth Factor	1.42	71	128	Gravel	24	2	4	400	0.13			400	0.22	0.22		400		
019		CR 21	CR 84	Local Roads	LCRB	NO	NO	R	93	2003	150	Growth Factor	0.58	54	97	Gravel	20	2	0	400	0.23			400	0.42	0.42		400		
019F		BEGIN	CR 46E (LAPORTE)	Local Roads	LCRB	YES	NO	U	565	2003	1,000	Growth Factor	0.25	139	250	Paved - High Type Bituminous	24	2	2	10,700	0.05			10,700	0.10	0.10		10,700		
019F		CR 46E (LAPORTE)	CR 48 (VINE)	Local Roads	LCRB	YES	NO	U	565	2003	1,000	Growth Factor	0.50	283	509	Paved - High Type Bituminous	22	2	3	10,000	0.06			10,000	0.10	0.10		10,000		
019G		CR 48 (VINE)	CR 48 (VINE)	Local Roads	LCRB	YES	NO	U	483	2003	850	Growth Factor	0.50	242	435	Paved - High Type Bituminous	23	2	3	10,700	0.05			10,700	0.08	0.08		10,700		
LCR 20	020	CR 29	CR 23H	Major Collector	LCRB	NO	NO	R	2,460	2004	4,300	Growth Factor	1.60	3,936	6,931	Paved - High Type Bituminous	24	2	3	7,000	0.35			7,000	0.62	0.62		7,000		
	020	CR 23H	CR 23E	Major Collector	LCRB	NO	NO	R	3,828	2004	6,700	Growth Factor	0.26	995	1,753	Paved - High Type Bituminous	24	2	4	8,500	0.45			8,500	0.79	0.79		8,500		
	020	CR 23E	LOVELAND CL	Minor Arterial	LCRB	YES	NO	U	3,828	2004	6,700	Growth Factor	0.40	1,531	2,696	Paved - High Type Bituminous	24	2	4	13,100	0.29			13,100	0.51	0.51		13,100		
	020C	US 34 BYPASS	ESTES CL	Minor Collector	LCRB	NO	NO	M	265	2003	500	Growth Factor	0.91	241	434	Paved - High Type Bituminous	21	2	2	5,800	0.05			5,800	0.08	0.08		5,800		
	020C	CR 3	COUNTY LINE	Local Roads	LCRB	NO	NO	R	53	2003	100	Growth Factor	1.10	58	105	Gravel	22	2	0	400	0.13			400	0.24	0.24		400		
	020E	LOVELAND CL	I-25 BRIDGE	Minor Arterial	LCRB	YES	NO	U	550	2003	6,200	NFR Model	0.96	528	5,906	Paved - Low Type Bituminous	24	2	4	400	1.38	Pave	\$1,392,000	15,300	0.24	0.40		15,300		
LCR 21	021	COUNTY LINE	CR 4	Major Collector	LCRB	NO	NO	R	2,257	2004	4,000	Growth Factor	1.02	2,302	4,054	Paved - High Type Bituminous	24	2	4	8,500	0.27			8,500	0.47	0.47		8,500		
	021	CR 4	CR 6	Major Collector	LCRB	NO	NO	R	2,257	2004	4,000	Growth Factor	1.01	2,268	3,994	Paved - High Type Bituminous	24	2	4	8,500	0.27			8,500	0.47	0.47		8,500		
	021	SH 56	CR 6	Major Collector	LCRB	NO	NO	R	2,257	2004	3,000	NFR Model	1.02	2,291	3,064	Paved - High Type Bituminous	24	2	4	8,500	0.27	</								

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Larimer County Road	Section	FROM	TO	Func Class	Juris.	UGA	Regional CR?	Area Type	ADT	Date	2030 ADT	Forecast Source	Length (MI)	Curr VMT	2030 VMT	Road Surface	Width (FT)	Lane Qty.	Shld Width	Capacity (VPD)	Current V/C	Short-Range Needs	Short Range Costs	Improved Capac (VPD)	2030 V/Existing Capacity	2030 V / C	2030 Needs	2030 Improved Capacity	Long Term Improvement Cost
023H		CR 22B	START CR 22B	Major Collector	LCRB	NO	NO	R	2,751	2002	5,100	Growth Factor	0.25	674	1,240	Paved - High Type Bituminous	24	2	3	7,000	0.39			7,000	0.72	0.72		7,000	
		START CR 22B	CR 25/24	Major Collector	LCRB	NO	NO	R	2,500	2002	4,600	Growth Factor	0.96	0		Paved - High Type Bituminous	24	2	2	7,000	0.36			7,000	0.66	0.66		7,000	
LCR 24	024	CR 27	CR 25/CR 23H	Minor Collector	LCRB	NO	NO	M	387	2003	650	Growth Factor	0.89	344	565	Paved - High Type Bituminous	22	2	3	5,100	0.08			5,100	0.12	0.12		5,100	
	024E	CR 13E (MONROE)	CR 13 (MADISON)	Minor Arterial	LCRB	YES	NO	U	2,512	2003	3,600	NFR Model	0.53	1,331	1,928	Gravel	24	2	3	400	6.28	Pave	\$768,500	15,300	9.10	0.24		15,300	
	024H	LOVELAND CL	CR 11C	Minor Arterial	LCRB	YES	NO	U	3,500	2003	6,300	Growth Factor	0.14	490	882	Paved - High Type Bituminous	24	2	3	10,700	0.33			10,700	0.59	0.59		10,700	
	024H	CR 27	CR 25E	Minor Collector	LCRB	NO	NO	M	424	2003	700	Growth Factor	0.73	311	511	Paved - High Type Bituminous	24	2	2	5,800	0.07			5,800	0.12	0.12		5,800	
	024H	CR 25E	CR 25	Major Collector	LCRB	NO	NO	M	1,536	2002	2,600	Growth Factor	0.42	639	1,068	Paved - High Type Bituminous	24	2	4	7,100	0.22			7,100	0.36	0.36		7,100	
LCR 25	025	CR 24/CR 23H	CR 24H	Major Collector	LCRB	NO	NO	M	1,536	2002	2,600	Growth Factor	0.75	1,152	1,925	Paved - High Type Bituminous	24	2	2	5,800	0.26			5,800	0.44	0.44		5,800	
	025E	CR 24H	CR 38E	Major Collector	LCRB	NO	NO	M	831	2002	1,400	Growth Factor	3.97	3,297	5,509	Paved - High Type Bituminous	24	2	0	4,100	0.20			4,100	0.34	0.34		4,100	
	025E	CR 38E	LOCKED GATE	Local Roads	LCRB	NO	NO	M	252	2003	400	Growth Factor	6.46	1,628	2,670	Gravel	20	2	0	400	0.63			400	1.03	1.03	Pave	8,300	\$10,013,000
	025E	CR 50	SURF CHG	Local Roads	LCRB	NO	NO	M	120	2003	200	Growth Factor	0.90	108	177	Native	20	2	0	200	0.60			200	0.98	0.98	0	400	\$0
	025E	SURF CHG	CR 52E	Local Roads	LCRB	NO	NO	M	175	2003	300	Growth Factor	0.45	79	129	Paved - High Type Bituminous	24	2	2	5,800	0.03			5,800	0.05	0.05		5,800	
	025E	CR 52E/SH 28	CR 54E	Minor Collector	LCRB	NO	NO	M	335	2003	550	Growth Factor	1.35	452	742	Paved - High Type Bituminous	24	2	2	5,800	0.06			5,800	0.09	0.09		5,800	
	025G	CR 38E	IRENE WAY	Minor Collector	LCRB	NO	NO	M	1,228	2003	2,000	Growth Factor	1.23	1,512	2,480	Paved - High Type Bituminous	22	2	2	5,100	0.24			5,100	0.39	0.39		5,100	
	025G	BEGIN PAVEMENT	CR 23	Minor Collector	LCRB	NO	NO	M	1,138	2003	1,900	Growth Factor	1.61	1,837	3,013	Paved - High Type Bituminous	24	2	6	8,300	0.14			8,300	0.22	0.22		8,300	
	026	CR 3	CR 901	Minor Arterial	LCRB	NO	YES	R	NA	0	5,900	NFR Model	1.00	0	5,896	Paved - High Type Bituminous	24	2	4	8,500	0.00			8,500	0.69	0.69		8,500	
LCR 27	027	US 34	CR 24	Major Collector	LCRB	NO	NO	M	2,814	2003	4,600	Growth Factor	0.29	813	1,334	Paved - High Type Bituminous	24	2	5	7,100	0.40			7,100	0.65	0.65		7,100	
	027	CR 24	CR 24H	Major Collector	LCRB	NO	NO	M	2,814	2003	4,600	Growth Factor	0.79	2,226	3,651	Paved - High Type Bituminous	24	2	5	7,100	0.40			7,100	0.65	0.65		7,100	
	027	CR 24H	CR 29	Major Collector	LCRB	NO	NO	M	2,241	2003	3,700	Growth Factor	1.88	4,213	6,911	Paved - High Type Bituminous	24	2	5	7,100	0.32			7,100	0.52	0.52		7,100	
	027	CR 29	CR 32C	Major Collector	LCRB	NO	NO	M	1,382	2002	2,300	Growth Factor	1.65	2,280	3,810	Paved - High Type Bituminous	24	2	5	7,100	0.19			7,100	0.33	0.33		7,100	
	027	CR 32C	CR 38E	Major Collector	LCRB	NO	NO	M	1,382	2002	2,300	Growth Factor	0.59	815	1,362	Paved - High Type Bituminous	24	2	5	7,100	0.19			7,100	0.33	0.33		7,100	
	027	CR 38E	CR 44H	Major Collector	LCRB	NO	NO	M	661	2003	1,100	Growth Factor	10.63	7,026	11,526	Paved - High Type Bituminous	23	2	1	4,100	0.16			4,100	0.26	0.26		4,100	
	027	CR 44H	CR 52E	Major Collector	LCRB	NO	NO	M	422	2003	700	Growth Factor	3.72	1,570	2,575	Paved - High Type Bituminous	24	2	1	4,100	0.10			4,100	0.17	0.17		4,100	
	027	CR 52E	SH 14	Major Collector	LCRB	NO	NO	M	277	2004	450	Growth Factor	5.16	1,429	2,302	Paved - High Type Bituminous	22	2	0	3,400	0.08			3,400	0.13	0.13		3,400	
	027E	CR 4	CR 8E	Minor Collector	LCRB	NO	NO	M	257	2004	400	Growth Factor	3.10	797	1,283	Gravel	23	2	0	400	0.64			400	1.03	1.03	Pave	8,300	\$4,805,000
	027E	CR 52E (RIST CYN RD)	CR 54E	Local Roads	LCRB	NO	NO	M	316	2003	500	Growth Factor	0.93	295	484	Gravel	24	2	1	400	0.79			400	1.30	1.30	Pave	8,300	\$1,446,150
	LCR 28	028	RR XING	US 287	Minor Arterial	LCRB	YES	NO	U	6,417	2002	15,000	NFR Model	0.58	3,722	8,687	Paved - High Type Bituminous	24	2	4	13,100	0.49			13,100	1.14	1.14	Widen Lanes & Shoulder	15,300
028		US 287	CR 13E	Minor Arterial	LCRB	YES	NO	U	6,332	2003	10,500	NFR Model	0.50	3,153	5,215	Paved - High Type Bituminous	24	2	6	15,300	0.41			15,300	0.68	0.68		15,300	
028		CR 13E	CR 13C	Minor Arterial	LCRB	YES	NO	U	4,781	2003	8,600	Growth Factor	0.51	2,414	4,345	Paved - High Type Bituminous	22	2	4	12,300	0.39			12,300	0.70	0.70		12,300	
028		CR 13	CR 11C	Minor Arterial	LCRB	YES	NO	U	2,564	2003	4,000	NFR Model	0.74	1,902	2,995	Paved - High Type Bituminous	22	2	4	12,300	0.21			12,300	0.33	0.33		12,300	
LCR 29	029	CR 12	CR18E (POLE HILL RD)	Major Collector	LCRB	NO	NO	R	1,185	2004	2,200	NFR Model	3.16	3,746	7,046	Paved - Low Type Bituminous	24	2	3	400	2.96	Pave	\$3,161,000	10,000	5.57	0.22		10,000	
	029	CR18E (POLE HILL RD)	CR 20	Major Collector	LCRB	NO	NO	R	2,953	2004	5,900	NFR Model	0.34	995	1,972	Paved - High Type Bituminous	24	2	2	7,000	0.42			7,000	0.84	0.84		7,000	
	029	CR 20	US 34	Major Collector	LCRB	NO	NO	R	2,050	2004	4,000	NFR Model	1.72	3,518	6,782	Paved - High Type Bituminous	24	2	2	7,000	0.29			7,000	0.56	0.56		7,000	
	029	US 34	CR 22H	Minor Collector	LCRB	NO	NO	R	298	2003	500	Growth Factor	1.23	366	601	Paved - Unknown	22	2	0	4,200	0.07			4,200	0.12	0.12		4,200	
	029	CR 22H	SURF CHG	Minor Collector	LCRB	NO	NO	R	344	2003	450	NFR Model	1.94	667	869	Paved - Unknown	24	2	0	5,000	0.07			5,000	0.09	0.09		5,000	
	029	SURF CHG	CR 27	Minor Collector	LCRB	NO	NO	R	344	2003	450	NFR Model	1.31	451	587	Paved - Low Type Bituminous	24	2	0	400	0.86			400	1.12	1.12	Pave	10,000	\$1,310,000
	029A	BEGIN PVMT	CR 29	Local Roads	LCRB	NO	NO	R	100	2004	150	Growth Factor	0.36	36	58	Paved - High Type Bituminous	24	2	2	7,000	0.01			7,000	0.02	0.02		7,000	
	029C	SH 14	CR 58G	Local Roads	LCRB	NO	NO	M	197	2004	300	Growth Factor	1.22	241	388	Paved - High Type Bituminous	24	2	3	5,800	0.03			5,800	0.05	0.05		5,800	
	LCR 30	030	US 287	CR 13 SOUTH BOUND	Major Collector	LCRB	YES	NO	U	376	2003	2,600	NFR Model	1.19	447	3,109	Paved - High Type Bituminous	22	2	3	10,000	0.04			10,000	0.26	0.26		10,000
030		CR 13 SOUTH BOUND	CR 13 NORTH BOUND	Major Collector	LCRB	YES	NO	U	1,039	2003	3,100	NFR Model	0.87	904	2,733	Paved - Low Type Bituminous	24	2	3	400	2.60	Pave	\$1,261,500	15,300	7.85	0.21		15,300	
030		CR 13 NORTH BOUND	CR 11C	Major Collector	LCRB	NO	NO	U	1,099	2003	3,100	NFR Model	0.49	533	1,523	Paved - High Type Bituminous	24	2	1	7,700	0.14			7,700	0.41	0.41		7,700	
030		CR 11C	CR 11	Minor Arterial	LCRB	NO	YES	U	5,663	2003	9,300	NFR Model	0.24	1,359	2,227	Paved - High Type Bituminous	24	2	6	15,300	0.37			15,300	0.61	0.61		15,300	
030		CR 11	LOVELAND CL	Minor Arterial	LCRB	YES	YES	U	5,710	2003	9,300	NFR Model	0.07	400	650	Paved - High Type Bituminous	36	2	4	13,100	0.44			13,100	0.71	0.71		13,100	
030		RR XING (LOVELAND CL)	CR 9	Minor Arterial	LCRB	YES	YES	U	3,261	2003	9,000	NFR Model	0.67	2,188	6,029	Paved - High Type Bituminous	24	2	6	15,300	0.21			15,300	0.59	0.59		15,300	
030		LOVELAND CL	I-25 W FRONTAGE RD	Minor Arterial	LCRB	YES	NO	U	3,231	2003	9,800	NFR Model	1.31	4,242	12,865	Paved - High Type Bituminous	24	2	6	15,300	0.21			15,300	0.64	0.64		15,300	
030		I-25 E FRONTAGE RD	WINDSOR CL	Minor Arterial	LCRB	YES																							

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Larimer County Road	Section	FROM	TO	Func Class	Juris.	UGA	Regional CR?	Area Type	ADT	Date	2030 ADT	Forecast Source	Length (MI)	Curr VMT	2030 VMT	Road Surface	Width (FT)	Lane Qty.	Shld Width	Capacity (VPD)	Current V/C	Short-Range Needs	Short Range Costs	Improved Capac (VPD)	2030 V/Existing Capacity	2030 V / C	2030 Needs	2030 Improved Capacity	Long Term Improvement Cost
LCR 41	041	LOCKED GATE	CR 52E (RIST CYN RD)	Local Roads	LCRB	NO	NO	M	146	2003	250	Growth Factor	0.95	139	228	Native	17	2	0	200	0.73			200	1.20	1.20	Upgrade to Treated Gravel	400	\$475,000
LCR 42	42	CR 5	CR 3E	Local Roads	LCRB	NO	NO	M	90	2003	150	Growth Factor	0.49	44	72	Gravel	20	2	0	400	0.23			400	0.37	0.37		400	\$0
	042C	CR 23	WIDTH CHG	Minor Collector	LCRB	NO	NO	R	2,653	2001	4,500	Growth Factor	0.80	2,122	3,612	Paved - High Type Bituminous	24	2	3	7,000	0.38			7,000	0.64	0.64		7,000	\$0
	042C	WIDTH CHG	CITY FTC CL	Major Collector	LCRB	YES	NO	U	2,986	2001	5,100	Growth Factor	0.18	537	915	Paved - High Type Bituminous	24	2	15	15,300	0.20			15,300	0.33	0.33		15,300	\$0
	042E	CR 5	CR 3E	Local Roads	LCRB	NO	NO	R	90	2003	150	Growth Factor	0.49	44	72	Gravel	24	2	15	400	0.23			400	0.37	0.37		400	\$0
LCR 43	043	ESTES CL	CR 61	Major Collector	LCRB	NO	NO	M	1,820	2003	3,000	Growth Factor	3.27	5,946	9,754	Paved - High Type Bituminous	24	2	1	4,100	0.44			4,100	0.73	0.73		4,100	\$0
	043	CR 61	CR 51B	Major Collector	LCRB	NO	NO	M	1,581	2003	2,600	Growth Factor	5.09	8,052	13,208	Paved - High Type Bituminous	24	2	0	4,100	0.39			4,100	0.63	0.63		4,100	\$0
	043	CR 51B	SH 34	Major Collector	LCRB	NO	NO	M	986	2003	1,600	Growth Factor	6.07	6,046	9,917	Paved - High Type Bituminous	24	2	1	4,100	0.24			4,100	0.40	0.40		4,100	\$0
	043F	SH 287	END	Local Roads	LCRB	NO	NO	M	17	2003	30	Growth Factor	1.35	23	38	Native	20	2	0	200	0.09			200	0.14	0.14		200	\$0
LCR 44	044	CR 3	CR 901 SOUTH BOUND	Major Collector	LCRB	NO	NO	R	655	2003	1,100	Growth Factor	1.04	682	1,119	Paved - Low Type Bituminous	24	2	1	400	1.64	Pave	\$1,041,000	10,000	2.69	0.11		10,000	\$0
	044H	PINGREE PARK	CR 63E	Minor Collector	LCRB	NO	NO	M	132	2004	200	Growth Factor	4.03	532	857	Gravel	24	2	2	400	0.33			400	0.53	0.53		400	\$0
	044H	CR 63E	MONUMENT GULCH ROAD	Minor Collector	LCRB	NO	NO	M	45	2004	70	Growth Factor	5.29	238	383	Native	16	2	0	200	0.23			200	0.36	0.36		200	\$0
	044H	MONUMENT GULCH RD	CRYSTAL MOUNTAIN RD	Minor Collector	LCRB	NO	NO	M	45	2004	70	Growth Factor	4.09	184	296	Native	24	2	1	200	0.23			200	0.36	0.36		200	\$0
	044H	CRYSTAL MOUNTAIN RD	CR 27 (STOVE PRAIRE)	Minor Collector	LCRB	NO	NO	M	290	2003	500	Growth Factor	8.43	2,445	4,010	Native	20	2	0	200	1.45	ade to Treated G	\$4,215,000	400	2.38	1.19	Pave	8,300	\$4,215,000
LCR 45	045E	SH 287	SH 287	Local Roads	LCRB	NO	NO	M	33	2003	50	Growth Factor	1.91	63	104	Native	24	2	3	200	0.17			200	0.27	0.27		200	\$0
LCR 46	046E	GATE	CR 21 (OVERLAND TR)	Minor Collector	LCRB	YES	NO	U	2,501	2003	5,700	NFR Model	1.26	3,151	7,178	Paved - High Type Bituminous	24	2	6	15,300	0.16			15,300	0.37	0.37		15,300	\$0
	046E	CR 21 (OVERLAND TR)	CITY FTC CL	Minor Arterial	LCRB	YES	NO	U	3,380	2003	7,100	NFR Model	0.45	1,521	3,192	Paved - High Type Bituminous	24	2	3	10,700	0.32			10,700	0.66	0.66		10,700	\$0
	046E	CITY FTC CL	CR 11F (LINK LN)	Major Collector	LCRB	YES	NO	U	6,869	2003	12,400	Growth Factor	0.17	1,168	2,101	Paved - High Type Bituminous	24	2	3	10,700	0.64			10,700	1.16	1.16	Widen Lanes & Shoulder	15,300	\$85,000
	046E	11F (AIRPARK LN)	11C (AIRPARK DR)	Major Collector	LCRB	YES	NO	U	6,869	2003	12,400	Growth Factor	0.40	2,741	4,932	Paved - High Type Bituminous	24	2	2	10,700	0.64			10,700	1.16	1.16	Widen Lanes & Shoulder	15,300	\$199,500
	046E	CR 11C (AIRPARK DR)	TIMBERLINE RD	Major Collector	LCRB	YES	NO	U	6,869	2003	12,400	Growth Factor	0.61	4,190	7,540	Paved - High Type Bituminous	24	2	3	10,700	0.64			10,700	1.16	1.16	Widen Lanes & Shoulder	15,300	\$305,000
	046E	TIMBERLINE RD	CR 9E (SUMMITVIEW)	Major Collector	LCRB	YES	NO	U	853	2003	1,500	Growth Factor	0.23	195	352	Paved - High Type Bituminous	24	2	3	10,700	0.08			10,700	0.14	0.14		10,700	\$0
	046G	CR 19F (SUNSET)	CITY FTC CL	Local Roads	LCRB	YES	NO	U	434	2003	800	Growth Factor	0.13	57	103	Paved - High Type Bituminous	24	2	6	15,300	0.03			15,300	0.05	0.05		15,300	\$0
LCR 47	047	COUNTY LINE-BOULDER	SH 36	Minor Collector	LCRB	NO	NO	M	407	2003	650	Growth Factor	3.07	1,250	2,050	Paved - Low Type Bituminous	24	2	1	400	1.02	Pave	\$4,760,050	8,300	1.67	0.08		8,300	\$0
LCR 48	048	SRFCH (E)	G) TO CR 21 (OVERLAND TR)	Local Roads	LCRB	YES	NO	U	302	2003	550	Growth Factor	0.16	48	87	Paved - High Type Bituminous	22	2	2	10,000	0.03			10,000	0.05	0.05		10,000	\$0
	048	CR 21 (OVERLAND TR)	IRISH DR (CITY CL)	Minor Arterial	LCRB	YES	NO	U	3,040	2003	8,400	NFR Model	0.66	1,991	5,478	Paved - High Type Bituminous	24	2	5	13,100	0.23			13,100	0.64	0.64		13,100	\$0
	048	CITY FTC CL	CR 19 (TAFT HILL RD)	Minor Arterial	LCRB	YES	NO	U	3,719	2003	8,400	NFR Model	0.15	550	1,238	Paved - High Type Bituminous	24	2	5	13,100	0.28			13,100	0.64	0.64		13,100	\$0
	048	CR 19 (TAFT HILL)	CITY FTC CL	Minor Arterial	LCRB	YES	NO	U	4,163	2003	10,900	NFR Model	0.29	1,207	3,154	Paved - High Type Bituminous	24	2	6	15,300	0.27			15,300	0.71	0.71		15,300	\$0
	048	CITY FTC CL	CR 5	Major Collector	LCRB	NO	NO	R	2,056	2003	3,700	Growth Factor	0.72	1,486	2,675	Paved - High Type Bituminous	24	2	2	7,000	0.29			7,000	0.53	0.53		7,000	\$0
	048	CR 5	CR 3	Major Collector	LCRB	NO	NO	R	1,438	2003	2,600	Growth Factor	0.99	1,418	2,552	Paved - High Type Bituminous	24	2	2	7,000	0.21			7,000	0.37	0.37		7,000	\$0
	048	CR 3	COUNTY LINE (CR 901)	Major Collector	LCRB	NO	NO	R	1,438	2003	2,600	Growth Factor	1.01	1,450	2,609	Paved - High Type Bituminous	24	2	2	7,000	0.21			7,000	0.37	0.37		7,000	\$0
	048C	BEGINNING	CR 23	Local Roads	LCRB	NO	NO	M	351	1999	600	Growth Factor	0.52	184	324	Paved - High Type Bituminous	24	2	3	5,800	0.06			5,800	0.11	0.11		5,800	\$0
LCR 50	050	BEGINNING	CR 25E	Local Roads	LCRB	NO	NO	R	80	2003	150	NFR Model	0.63	50	82	Native	24	2	4	200	0.40			200	0.65	0.65		200	\$0
	050	SRFCH (E)	G) TO CR 21C (OVERLAND TR)	Local Roads	LCRB	YES	NO	U	312	2003	550	Growth Factor	0.74	231	415	Paved - High Type Bituminous	24	2	4	13,100	0.02			13,100	0.04	0.04		13,100	\$0
	050	CR 21C (OVERLAND TR)	GDR TO CLP FARM/CR21	Major Collector	LCRB	YES	NO	U	7,242	2003	13,000	Growth Factor	0.24	1,738	3,128	Paved - High Type Bituminous	24	2	3	10,700	0.68			10,700	1.22	1.22	Widen Lanes & Shoulder	15,300	\$120,000
	050	CR 17 (SHIELDS)	FTC CL	Minor Arterial	LCRB	YES	NO	U	5,573	2004	9,800	Growth Factor	0.25	1,393	2,453	Paved - High Type Bituminous	24	2	3	10,700	0.52			10,700	0.92	0.92		10,700	\$0
	050	CITY FTC CL	CITY FTC CL	Minor Arterial	LCRB	YES	NO	U	5,573	2004	9,800	Growth Factor	0.30	1,672	2,944	Paved - High Type Bituminous	24	2	3	10,700	0.52			10,700	0.92	0.92		10,700	\$0
	050	I-25 SRF CHG	CITY FTC CL	Major Collector	LCRB	YES	NO	U	329	2002	2,000	NFR Model	0.80	264	1,621	Gravel	22	2	0	400	0.82			400	5.05	5.05	Pave	15,300	\$401,500
	050	CR 5	CR 3	Major Collector	LCRB	NO	NO	R	278	2002	950	NFR Model	1.01	280	947	Gravel	22	2	0	400	0.70			400	2.35	2.35	Pave	10,000	\$503,500
	050E	CR 23	CR 21C (OVERLAND TR)	Minor Collector	LCRB	NO	NO	R	1,339	2001	2,300	Growth Factor	1.89	2,531	4,306	Paved - High Type Bituminous	24	2	4	8,500	0.16			8,500	0.27	0.27		8,500	\$0
	050E	SH 1	CR 13/CR 52C	Minor Collector	LCRB	YES	NO	U	3,880	2004	6,200	Growth Factor	0.78	3,026	4,874	Paved - High Type Bituminous	24	2	3	10,700	0.36			10,700	0.58	0.58		10,700	\$0
	050E	CR 13/CR 52C	CR 11	Minor Collector	LCRB	YES	NO	U	4,454	2004	7,200	Growth Factor	1.11	4,944	7,963	Paved - High Type Bituminous	24	2	3	10,700	0.42			10,700	0.67	0.67		10,700	\$0
LCR 51	051B	CR 43	LOCKED GATE	Minor Collector	LCRB	NO	NO	M	471	2003	750	Growth Factor	2.20	1,037	1,701	Gravel	16	2	0	400	1.18	Pave	\$3,413,100	8,300	1.93	0.09		8,300	\$0
LCR 52	052	CR 21C	END	Local Roads	LCRB	NO	NO	M	85	2004	150	Growth Factor	0.20	17	27	Paved - High Type Bituminous	22	2	0	3,400	0.03			3,400	0.04	0.04		3,400	\$0
	052	GATE	CR 11	Local Roads	LCRB	YES	NO	U	455	2004	800	Growth Factor	0.61	278	450	Paved - High Type Bituminous	24	2	4	13,100	0.03			13,100	0.06	0.06		13,100	\$0
	052	SRF CHG I-25	CR 3	Major Collector	LCRB	NO																							

APPENDIX A - ROAD INVENTORY

Larimer County Road	Section	FROM	TO	Func Class	Juris.	UGA	Regional CR?	Area Type	ADT	Date	2030 ADT	Forecast Source	Length (MI)	Curr VMT	2030 VMT	Road Surface	Width (FT)	Lane QTY.	Shld Width	Capacity (VPD)	Current V/C	Short-Range Needs	Short Range Costs	Improved Capac (VPD)	2030 V/Existing Capacity	2030 V / C	2030 Needs	2030 Improved Capacity	Long Term Improvement Cost	
056	056	CR 11 NORTH BOUND	CR 11 SOUTH BOUND	Minor Collector	LCRB	NO	NO	R	91	2004	2,100	NFR Model	0.15	14	316	Gravel	22	2	0	400	0.23			400	5.23	5.23	Pave	10,000	\$75,500	
	056	CR 11 SOUTH BOUND	CR 9	Minor Collector	LCRB	NO	NO	R	91	2004	2,600	NFR Model	0.85	77	2,235	Gravel	22	2	0	400	0.23			400	6.59	6.59	Pave	10,000	\$424,000	
	056	CR 9	1-25 W. FRONTAGE RD	Minor Collector	LCRB	NO	NO	R	91	2004	150	Growth Factor	0.96	88	154	Gravel	22	2	0	400	0.23			400	0.40	0.40		400	\$0	
	056	I-25 E. FRONTAGE RD	CR 3	Minor Collector	LCRB	NO	NO	R	283	2002	500	Growth Factor	2.01	568	1,045	Gravel	24	2	0	400	0.71			400	1.30	1.30	Pave	10,000	\$1,004,000	
	056	CR 3	SRFCH CHG	Major Collector	LCRB	NO	NO	R	223	2002	400	Growth Factor	0.39	87	161	Gravel	24	2	0	400	0.56			400	1.03	1.03	Pave	10,000	\$196,000	
	056	SURFACE CHANGE	SRFCH CHG	Major Collector	LCRB	NO	NO	R	149	2002	250	Growth Factor	0.31	46	85	Paved - High Type Bituminous	24	2	4	8,500	0.02			8,500	0.03	0.03		8,500	\$0	
056E	056E	SURFACE CHANGE	CR 901 (COUNTY LINE)	Major Collector	LCRB	NO	NO	R	74	2002	150	Growth Factor	0.31	23	43	Gravel	22	2	0	400	0.19			400	0.34	0.34		400	\$0	
	056E	CR 23E	CR 21C - OVERLAND	Local Roads	LCRB	NO	NO	R	271	2004	500	Growth Factor	1.82	493	868	Gravel	24	2	1	400	0.68			400	1.19	1.19	Pave	10,000	\$990,000	
LCR 58	058	CR 15	END OF PAVEMENT	Local Roads	LCRB	NO	NO	R	28	2004	50	Growth Factor	0.10	3	5	Paved - High Type Bituminous	22	2	0	4,200	0.01			4,200	0.01	0.01		4,200	\$0	
	058	SH 1	CR 9	Major Collector	LCRB	NO	NO	R	889	2004	5,400	NFR Model	0.13	111	670	Paved - High Type Bituminous	24	2	2	7,000	0.13			7,000	0.77	0.77		7,000	\$0	
	058	CR 9	I-25 West Frontage Road	Major Collector	LCRB	NO	NO	R	889	2004	8,400	NFR Model	0.95	842	7,943	Paved - Unknown	24	2	2	7,000	0.13			7,000	1.20	1.20	Widen Lanes & Shoulder	10,000	\$473,500	
	058	CR I-25 East Frontage Road	SURFACE CHANGE	Major Collector	LCRB	NO	NO	R	357	2004	900	NFR Model	0.97	346	875	Paved - Low Type Bituminous	24	2	0	400	0.89			400	2.26	2.26	Pave	10,000	\$485,000	
	058	SURFACE CHANGE	CR 3	Major Collector	LCRB	NO	NO	R	261	2004	900	NFR Model	0.86	224	776	Gravel	24	2	1	400	0.65			400	2.26	2.26	Pave	10,000	\$430,000	
	058G	CR 3	COUNTY LINE	Major Collector	LCRB	NO	NO	R	124	2004	900	NFR Model	1.02	127	924	Gravel	24	2	2	400	0.31			400	2.26	2.26	Pave	10,000	\$512,000	
LCR 59	058G	CR 29C	LOCKED GATE	Local Roads	LCRB	NO	NO	R	197	2004	350	Growth Factor	0.17	33	59	Paved - High Type Bituminous	18	2	0	2,400	0.05			2,400	0.08	0.08		4,200	\$0	
	059	GATE/SYSTEM CHANGE	SURFACE CHANGE	Minor Collector	LCRB	NO	NO	M	NA	0	N/A		2.48			Native	0	0	0	200	0.00			200	0.00	0.00		200	\$0	
LCR 60	059	CR 80C	STATE LINE	Minor Collector	LCRB	NO	NO	M	46	2001	80	Growth Factor	6.56	302	513	Native	24	2	1	200	0.23			200	0.39	0.39		200	\$0	
	060	BEGINING	CR 21	Local Roads	LCRB	NO	NO	R	49	2004	90	Growth Factor	0.26	13	22	Gravel	24	2	2	400	0.12			400	0.22	0.22		400	\$0	
	060	CR 60E	CR 15	Minor Collector	LCRB	NO	NO	R	503	2004	900	Growth Factor	1.36	684	1,205	Gravel	24	2	3	400	1.26	Pave	\$1,360,000	10,000	2.21	0.09		10,000	\$0	
	060	END	SH 1	Local Roads	LCRB	NO	NO	R	50	2004	90	Growth Factor	0.50	0	0	Native	20	2	0	200	0.25			200	0.00	0.00		200	\$0	
	060	WELLINGTON CL	CR 3	Minor Collector	LCRB	NO	NO	U	271	2004	500	Growth Factor	1.52	412	725	Gravel	24	2	1	400	0.68			400	1.19	1.19	Pave	15,300	\$760,000	
	060	CR 3	CR 901/COUNTY LINE	Minor Collector	LCRB	NO	NO	R	94	2004	150	Growth Factor	1.00	94	166	Gravel	24	2	1	400	0.24			400	0.41	0.41		400	\$0	
LCR 61	060E	CR 21	CR 19	Minor Collector	LCRB	NO	NO	R	287	2004	500	Growth Factor	1.01	290	510	Gravel	24	2	3	400	0.72			400	1.26	1.26	Pave	10,000	\$504,500	
	060E	CR 19	CR 60	Minor Collector	LCRB	NO	NO	R	325	2004	550	Growth Factor	1.37	446	785	Gravel	24	2	3	400	0.81			400	1.43	1.43	Pave	10,000	\$685,500	
LCR 62	061	CR 43	CR 63E	Minor Collector	LCRB	NO	NO	M	478	2003	800	Growth Factor	0.45	215	353	Paved - High Type Bituminous	22	2	1	3,400	0.14			3,400	0.23	0.23		3,400	\$0	
	061	CR 63E	END	Local Roads	LCRB	NO	NO	M	146	2003	250	Growth Factor	0.86	126	206	Gravel	20	2	0	400	0.37			400	0.60	0.60		400	\$0	
	061G	PEAKVIEW DRIVE	END MAINTENANCE	Local Roads	LCRB	NO	NO	M	120	2003	200	Growth Factor	0.70	84	138	Native	22	2	0	200	0.60			200	0.98	0.98	0	200	\$0	
LCR 63	062	CR 11	SH 1	Minor Collector	LCRB	NO	NO	R	139	2004	250	Growth Factor	1.02	142	250	Gravel	24	2	1	400	0.35			400	0.61	0.61		400	\$0	
	062	WELLINGTON CL	CR 3	Minor Collector	LCRB	NO	NO	U	292	2004	500	Growth Factor	1.63	476	839	Gravel	24	2	2	400	0.73			400	1.29	1.29	Pave	15,300	\$815,500	
	062	CR 3	CR 901/COUNTY LINE	Minor Collector	LCRB	NO	NO	R	124	2004	200	Growth Factor	1.00	124	218	Gravel	24	2	2	400	0.31			400	0.55	0.55		400	\$0	
	062E	CR 11	CR 9	Minor Collector	LCRB	NO	NO	R	110	2004	200	Growth Factor	1.00	110	194	Native	24	2	0	200	0.55			200	0.97	0.97		200	\$0	
LCR 64	062E	CR 9	SH 1	Local Roads	LCRB	NO	NO	R	1,541	2004	2,700	Growth Factor	0.19	293	516	Paved - High Type Bituminous	24	2	3	7,000	0.22			7,000	0.39	0.39		7,000	\$0	
	063	BEGIN/CHELEY CAMP RD	CR 63A	Local Roads	LCRB	NO	NO	M	259	2003	400	Growth Factor	0.58	151	248	Native	24	2	2	200	1.30	ade to Treated G	\$292,000	400	2.12	1.06		Pave	8,300	\$292,000
	063	CR 63A	CARRIAGE DR	Major Collector	LCRB	NO	NO	M	765	2003	1,300	Growth Factor	0.53	402	660	Paved - High Type Bituminous	24	2	4	7,100	0.11			7,100	0.18	0.18		7,100	\$0	
	063	CARRIAGE DR	ESTES CITY LIMITS	Major Collector	LCRB	NO	NO	M	1,673	2003	2,700	Growth Factor	1.35	2,259	3,705	Paved - High Type Bituminous	24	2	4	7,100	0.24			7,100	0.39	0.39		7,100	\$0	
	063	ESTES CITY LIMITS	ESTES CITY LIMITS	Major Collector	LCRB	NO	NO	M	1,700	2003	2,800	Growth Factor	0.42	714	1,171	Paved - High Type Bituminous	24	2	4	7,100	0.24			7,100	0.39	0.39		7,100	\$0	
	063	ESTES CITY LIMITS	ESTES CITY LIMITS	Major Collector	LCRB	NO	NO	M	2,146	2003	3,500	Growth Factor	0.85	1,824	2,992	Paved - High Type Bituminous	24	2	4	7,100	0.30			7,100	0.50	0.50		7,100	\$0	
	063	ESTES CITY LIMITS	US 36	Major Collector	LCRB	NO	NO	M	2,013	2003	3,300	Growth Factor	0.35	705	1,156	Paved - High Type Bituminous	24	2	1	4,100	0.49			4,100	0.81	0.81		4,100	\$0	
	063A	CR 63	SH 7	Major Collector	LCRB	NO	NO	M	817	2003	1,300	Growth Factor	0.20	167	273	Paved - High Type Bituminous	24	2	4	7,100	0.12			7,100	0.19	0.19		7,100	\$0	
	063E	ESTES CITY LIMITS	CR 61	Major Collector	LCRB	NO	NO	M	1,445	2003	2,400	Growth Factor	1.89	2,737	4,489	Paved - High Type Bituminous	24	2	4	7,100	0.20			7,100	0.33	0.33		7,100	\$0	
	063E	CR 44H	CROWN POINT RD	Minor Collector	LCRB	NO	NO	M	181	2004	300	Growth Factor	7.62	1,378	2,220	Native	24	2	2	200	0.91	0	\$0	200	1.46	1.46	Upgrade to Treated Gravel	400	\$3,808,000	
063E	CROWN POINT RD	SH 14	Minor Collector	LCRB	NO	NO	M	315	2004	500	Growth Factor	4.26	1,342	2,161	Native	24	2	2	200	1.58	ade to Treated G	\$2,130,000	400	2.54	1.27	Pave	8,300	\$6,603,000		
LCR 65	064	CR 21	CR 19	Minor Collector	LCRB	NO	NO	R	108	2004	200	Growth Factor	1.00	108	191	Native	24	2	4	200	0.54			200	0.95	0.95		200	\$0	
	064	CR 19	CR 17	Minor Collector	LCRB	NO	NO	R	150	2004	250	Growth Factor	1.01	151	266	Native	24	2	4	200	0.75			200	1.32	1.32	Upgrade to Treated Gravel	400	\$503,500	
	064	CR 15	CR 11	Major Collector	LCRB	NO	NO	R	864	2004	1,700	NFR Model	1.57	1,356	2,716	Paved - High Type Bituminous	24	2	4	8,500	0.10			8,500	0.20	0.20		8,500	\$0	
	064	CR 11	CR 9	Major Collector	LCRB	NO	NO	R	864	2004	1,700	NFR Model	1.02	881	1,765	Paved - High Type Bituminous	24	2	4	8,500	0.10			8,500	0.20	0.20		8,500	\$0	
	064	CR 7	BARRICADE	Major Collector	LCRB	NO	NO	U	33	2004	60	Growth Factor	0.26																	

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Larimer County Road	Section	FROM	TO	Func Class	Juris.	UGA	Regional CR?	Area Type	ADT	Date	2030 ADT	Forecast Source	Length (MI)	Curr VMT	2030 VMT	Road Surface	Width (FT)	Lane QTY.	Shld Width	Capacity (VPD)	Current V/C	Short-Range Needs	Short Range Costs	Improved Capac (VPD)	2030 V/Existing Capacity	2030 V / C	2030 Needs	2030 Improved Capacity	Long Term Improvement Cost
	070	CR 21	CR 19	Minor Arterial	LCRB	NO	NO	R	760	2004	1,200	Growth Factor	0.99	752	1,212	Gravel	24	2	1	400	1.90	Pave	\$990,000	10,000	3.06	0.12		10,000	
	070	CR 19	CR 17	Minor Arterial	LCRB	NO	NO	R	1,134	2004	1,800	Growth Factor	1.02	1,157	1,863	Paved - Low Type Bituminous	24	2	2	400	2.84	Pave	\$1,020,000	10,000	4.57	0.18		10,000	
	070	CR 17	CR 15	Minor Arterial	LCRB	NO	NO	R	1,134	2004	1,800	Growth Factor	1.00	1,134	1,826	Paved - Low Type Bituminous	24	2	2	400	2.84	Pave	\$1,000,000	10,000	4.57	0.18		10,000	
	070	CR 15	CR 13 NORTH BOUND	Minor Arterial	LCRB	NO	NO	R	1,840	2002	2,800	NFR Model	0.94	1,724	2,636	Paved - High Type Bituminous	24	2	3	7,000	0.26			7,000	0.40	0.40		7,000	
	070	CR 13 SOUTH BOUND	CR 11 SOUTH BOUND	Minor Arterial	LCRB	NO	NO	R	1,854	2002	2,800	NFR Model	1.02	1,891	2,869	Paved - High Type Bituminous	24	2	3	7,000	0.26			7,000	0.40	0.40		7,000	
	070	CR 11 SOUTH BOUND	CR 11 NORTH BOUND	Minor Arterial	LCRB	NO	NO	R	1,886	2002	2,800	NFR Model	0.06	113	169	Paved - High Type Bituminous	24	2	3	7,000	0.27			7,000	0.40	0.40		7,000	
	070	CR 11 NORTH BOUND	CR 9	Minor Arterial	LCRB	NO	NO	R	1,990	2000	2,800	NFR Model	0.91	1,811	2,560	Paved - High Type Bituminous	24	2	3	7,000	0.28			7,000	0.40	0.40		7,000	
	070	CR 9	CR 7 NORTH BOUND	Minor Arterial	LCRB	NO	NO	R	2,141	2004	3,400	NFR Model	0.99	2,126	3,350	Paved - High Type Bituminous	24	2	3	7,000	0.31			7,000	0.48	0.48		7,000	
	070	CR 7 NORTH BOUND	CR 7 SOUTH BOUND	Minor Arterial	LCRB	NO	NO	R	2,141	2004	3,400	NFR Model	0.05	96	152	Paved - High Type Bituminous	24	2	3	7,000	0.31			7,000	0.48	0.48		7,000	
	070	CR 7 SOUTH BOUND	I-25 SURFACE CHANGE	Minor Arterial	LCRB	NO	NO	R	2,141	2004	3,400	NFR Model	0.17	364	574	Paved - High Type Bituminous	24	2	3	7,000	0.31			7,000	0.48	0.48		7,000	
LCR 72	070	I-25 SURFACE CHANGE	CR 5	Major Collector	LCRB	NO	NO	R	466	2002	3,400	NFR Model	0.41	192	1,387	Gravel	24	2	2	400	1.17	Pave	\$411,000	10,000	8.44	0.34		10,000	
	070	CR 5	CR 3	Major Collector	LCRB	NO	NO	R	376	2002	700	Growth Factor	1.00	376	691	Gravel	24	2	2	400	0.94			400	1.73	1.73	Pave	10,000	\$999,000
LCR 72	072	US 287	CR 21	Minor Arterial	LCRB	NO	NO	R	1,370	2004	2,300	NFR Model	3.23	4,425	7,574	Gravel	24	2	4	400	3.43	Pave	\$3,230,000	10,000	5.86	0.23		10,000	
	072	CR 21	CR 17	Major Collector	LCRB	NO	NO	R	313	2002	2,100	NFR Model	2.06	645	4,318	Gravel	24	2	3	400	0.78			400	5.24	5.24	Pave	10,000	\$2,060,000
	072	CR 17	CR 15	Major Collector	LCRB	NO	NO	R	775	2002	2,100	NFR Model	1.00	775	2,096	Gravel	24	2	1	400	1.94	Pave	\$1,000,000	10,000	5.24	0.21		10,000	
	072	CR 15	CR 13	Minor Collector	LCRB	NO	NO	R	89	2002	2,100	NFR Model	0.99	88	2,075	Gravel	24	2	8	400	0.22			400	5.24	5.24	Pave	10,000	\$990,000
	072	CR 13	CR 11	Minor Collector	LCRB	NO	NO	R	66	2002	2,100	NFR Model	0.98	65	2,054	Gravel	24	2	1	400	0.17			400	5.24	5.24	Pave	10,000	\$980,000
072E	BEG CNTY MAINT - 11E	CR 11	Local Roads	LCRB	NO	NO	R	NA	0	N/A		0.25			Gravel	22	2	0	400	0.00			400	0.00	0.00		400		
LCR 73	073C	CR 74E/162	SURFACE CHANGE	Major Collector	LCRB	NO	NO	M	1,143	2003	1,900	Growth Factor	1.16	1,326	2,175	Paved - High Type Bituminous	24	2	4	7,100	0.16			7,100	0.26	0.26		7,100	
	073C	SURFACE CHANGE	CR 180	Major Collector	LCRB	NO	NO	M	600	2003	1,000	Growth Factor	4.08	2,449	4,018	Gravel	24	2	0	400	1.50	Pave	\$6,327,100	8,300	2.46	0.12		8,300	
LCR 74	074	CR 17	CR 15	Minor Collector	LCRB	NO	NO	R	89	2002	150	Growth Factor	1.00	89	164	Gravel	20	2	0	400	0.22			400	0.41	0.41		400	
	074	I-25 E. FRONTAGE RD	CR 5	Minor Collector	LCRB	NO	NO	R	364	1998	750	Growth Factor	0.17	62	125	Gravel	24	2	0	400	0.91			400	1.83	1.83	Pave	10,000	\$171,000
	074	CR 5	COUNTY LINE	Minor Collector	LCRB	NO	NO	R	374	2002	700	Growth Factor	1.99	744	1,368	Gravel	24	2	0	400	0.94			400	1.72	1.72	Pave	10,000	\$1,989,000
	074E	CR 73C CRDMRE LKS RD	CR 162/MANHATTAN RD	Minor Arterial	LCRB	NO	NO	M	1,046	2003	1,700	Growth Factor	0.19	197	323	Paved - High Type Bituminous	24	2	4	7,100	0.15			7,100	0.24	0.24		7,100	
	074E	CR 162/MANHATTAN RD	CR 67J/PRAIRE DIVIDE	Minor Arterial	LCRB	NO	NO	M	1,585	2003	2,600	Growth Factor	0.38	605	993	Paved - High Type Bituminous	24	2	4	7,100	0.22			7,100	0.37	0.37		7,100	
	074E	CR 67J/PRAIRE DIVIDE	CR 218/DOWDY LAKE RD	Minor Arterial	LCRB	NO	NO	M	2,166	2003	3,600	Growth Factor	0.96	2,079	3,411	Paved - High Type Bituminous	24	2	1	4,100	0.53			4,100	0.87	0.87		4,100	
	074E	CR 218/DOWDY LAKE RD	CR 68C/BOY SCOUT RD	Minor Arterial	LCRB	NO	NO	M	2,056	2003	3,400	Growth Factor	6.34	13,035	21,383	Paved - High Type Bituminous	24	2	4	7,100	0.29			7,100	0.48	0.48		7,100	
	074E	CR 68C/BOY SCOUT RD	END PN 120	Minor Arterial	LCRB	NO	NO	M	2,287	2003	3,800	Growth Factor	4.43	10,131	16,619	Paved - High Type Bituminous	24	2	6	8,300	0.28			8,300	0.45	0.45		8,300	
	074E	END PN 120	CR 37	Minor Arterial	LCRB	NO	NO	M	2,821	2003	4,600	Growth Factor	7.85	22,153	36,340	Paved - High Type Bituminous	24	2	4	7,100	0.40			7,100	0.65	0.65		7,100	
	074E	CR 37	SH 287	Minor Arterial	LCRB	NO	NO	M	2,971	2003	4,900	Growth Factor	3.93	11,670	19,144	Paved - High Type Bituminous	23	2	3	5,800	0.51			5,800	0.84	0.84		5,800	
LCR 76	076	BEGINING	CR 17	Local Roads	LCRB	NO	NO	R	46	2002	80	Growth Factor	0.81	37	69	Gravel	20	2	0	400	0.12			400	0.21	0.21		400	
	076	CR 17	CR 15	Minor Collector	LCRB	NO	NO	R	109	2002	950	NFR Model	1.00	109	955	Gravel	24	2	0	400	0.27			400	2.38	2.38	Pave	10,000	\$1,004,000
	076	CR 15	CR 11	Minor Collector	LCRB	NO	NO	R	109	2002	950	NFR Model	1.96	213	1,860	Gravel	24	2	0	400	0.27			400	2.38	2.38	Pave	10,000	\$1,956,000
	076H	CR 37	SH 287	Local Roads	LCRB	NO	NO	R	42	2003	80	Growth Factor	2.65	111	200	Native	21	2	0	200	0.21			200	0.38	0.38		200	
LCR 78	078	GATE	CR 17	Local Roads	LCRB	NO	NO	M	22	2003	40	Growth Factor	0.77	17	28	Native	22	2	0	200	0.11			200	0.18	0.18		200	
	078	CR 17	CR 15	Minor Collector	LCRB	NO	NO	M	213	2003	350	Growth Factor	1.00	213	349	Paved - High Type Bituminous	24	2	6	8,300	0.03			8,300	0.04	0.04		8,300	
LCR 80	080	SH 287	CR 19	Minor Collector	LCRB	NO	NO	M	135	2003	200	Growth Factor	8.26	1,115	1,829	Gravel	24	2	3	400	0.34			400	0.55	0.55		400	
	080	CR 19	CR 17	Minor Collector	LCRB	NO	NO	M	201	2003	350	Growth Factor	0.96	193	317	Paved - High Type Bituminous	23	2	3	5,800	0.03			5,800	0.06	0.06		5,800	
	080	CR 17	END MAINTENANCE	Local Roads	LCRB	NO	NO	M	30	2003	50	Growth Factor	0.50	15	25	Native	24	2	0	200	0.15			200	0.25	0.25		200	
	080C	CR 190	CR 103 (LRMIE RV RD)	Local Roads	LCRB	NO	NO	M	76	2004	100	Growth Factor	5.37	408	657	Native	24	2	1	200	0.38			200	0.61	0.61		200	
	080C	CR 103 (LARM RV RD)	CR 162 (DEADMAN RD)	Minor Collector	LCRB	NO	NO	M	73	2004	100	Growth Factor	1.66	121	195	Native	22	2	0	200	0.37			200	0.59	0.59		200	
	080C	CR 162 (DEADMAN RD)	CR 89 (CHIMNEY ROCK)	Minor Collector	LCRB	NO	NO	M	32	2004	50	Growth Factor	6.02	193	310	Native	22	2	0	200	0.16			200	0.26	0.26		200	
	080C	CR 89 (CHIMNEY ROCK)	FS 169(PEARL-BEAVER)	Minor Collector	LCRB	NO	NO	M	30	2004	50	Growth Factor	9.12	274	441	Native	22	2	0	200	0.15			200	0.24	0.24		200	
	080C	FS 169(PEARL-BEAVER)	CR 59	Minor Collector	LCRB	NO	NO	M	87	2001	150	NFR Model	9.94	200	1,472	Native	20	2	0	200	0.44			200	0.74	0.74		200	
	080C	CR 59	CR 179	Minor Collector	LCRB	NO	NO	M	142	2001	250	Growth Factor	4.20	596	1,015	Native	24	2	2	200	0.71			200	1.21	1.21	Upgrade to Treated Gravel	400	\$2,100,000
	080C	CR 179	CR 82E	Major Collector	LCRB	NO	NO	M	209	2001	350	Growth Factor	6.19	1,294	2,201	Native	24	2	3	200	1.05	ade to Treated G							

APPENDIX A - ROAD INVENTORY

Larimer County Road	Section	FROM	TO	Func Class	Juris.	UGA	Regional CR?	Area Type	ADT	Date	2030 ADT	Forecast Source	Length (MI)	Curr VMT	2030 VMT	Road Surface	Width (FT)	Lane QTY.	Shld Width	Capacity (VPD)	Current V/C	Short-Range Needs	Short Range Costs	Improved Capac (VPD)	2030 V/Existing Capacity	2030 V / C	2030 Needs	2030 Improved Capacity	Long Term Improvement Cost	
	901	US 34	CR 26	Minor Arterial	LCRB	NO	NO	R	602	2003	1,000	Growth Factor	2.01	1,209	1,984	Gravel	24	2	2	400	1.51	Pave	\$2,009,000	10,000	2.47	0.10		10,000		
	901	END CL	BEGIN CL	Minor Arterial	UN	NO	NO	R	2,915	2000	5,100	Growth Factor	0.75	2,186	3,789	Paved - High Type Bituminous	24	2	6	10,000	0.29			10,000	0.51	0.51		10,000		
	901	ABUT #1...	SH 392	Minor Arterial	WC	NO	NO	R	2,915	2000	5,100	Growth Factor	0.42	1,233	2,137	Paved - High Type Bituminous	24	2	4	8,500	0.34			8,500	0.59	0.59		8,500		
	901	SH 392	CR 32E / WCR 68 1/2	Minor Arterial	WC	NO	NO	R	229	2004	3,200	NFR Model	0.50	115	1,598	Paved - High Type Bituminous	24	2	4	8,500	0.03			8,500	0.38	0.38		8,500		
	901	CR 32E / WCR 68 1/2	WCR 78	Minor Arterial	WC	NO	NO	R	249	2005	3,200	NFR Model	4.51	1,123	14,256	Gravel	24	2	0	400	0.62			400	7.90	7.90	Pave	10,000	\$4,510,000	
	901	WELD C R 78	CR 44	Minor Arterial	LCRB	NO	NO	R	323	2003	550	Growth Factor	1.09	353	580	Paved - Low Type Bituminous	24	2	0	400	0.81			400	1.32	1.32	Pave	10,000	\$1,094,000	
	901	CR 44	SH 14	Minor Arterial	LCRB	NO	NO	R	288	2003	450	Growth Factor	1.01	290	475	Paved - High Type Bituminous	24	2	2	7,000	0.04			7,000	0.07	0.07		7,000		
	901	SH 14	CR 48	Major Collector	LCRB	NO	NO	R	359	2003	600	Growth Factor	1.01	361	592	Gravel	24	2	0	400	0.90			400	1.47	1.47	Pave	10,000	\$1,006,000	
	901	CR 48	CR 52	Major Collector	LCRB	NO	NO	R	292	2003	500	Growth Factor	2.01	588	965	Gravel	24	2	0	400	0.73			400	1.20	1.20	Pave	10,000	\$2,014,000	
	901	CR 52	CR 54	Major Collector	LCRB	NO	NO	R	208	2002	350	Growth Factor	1.00	207	346	Gravel	24	2	0	400	0.52			400	0.87	0.87		400		
	901	CR 54	CR 56	Major Collector	LCRB	NO	NO	R	118	2002	200	Growth Factor	1.00	118	198	Gravel	24	2	0	400	0.30			400	0.49	0.49		400		
	901	CR 56	CR 62	Major Collector	WC	NO	NO	R	40	2002	70	Growth Factor	3.00	120	200	Gravel	24	2	0	400	0.10			400	0.17	0.17		400		
LCR 904	904	CR 905	CR 4	Major Collector	LCRB	NO	NO	R	1,909	2004	3,100	Growth Factor	1.00	1,909	3,075	Paved - High Type Bituminous	24	2	3	7,000	0.27			7,000	0.44	0.44		7,000		
	904	CR 4	CR 6C	Major Collector	LCRB	NO	NO	R	1,909	2004	3,100	Growth Factor	1.26	2,405	3,874	Paved - High Type Bituminous	24	2	3	7,000	0.27			7,000	0.44	0.44		7,000		
	904	CR 6C	SH 56	Major Collector	LCRB	NO	NO	R	2,030	2004	3,300	Growth Factor	0.74	1,502	2,419	Paved - High Type Bituminous	22	2	3	6,400	0.32			6,400	0.51	0.51		6,400		
	904	SH 56	CR 10	Minor Collector	LCRB	NO	NO	R	622	2004	1,000	Growth Factor	1.02	634	1,022	Paved - High Type Bituminous	22	2	3	6,400	0.10			6,400	0.16	0.16		6,400		
	904	CR 10	CR 12	Minor Collector	LCRB	NO	NO	R	215	2004	350	Growth Factor	1.01	217	350	Gravel	21	2	0	400	0.54			400	0.87	0.87		400		
	904	CR 12	SH 60	Minor Collector	LCRB	NO	NO	R	307	2004	500	Growth Factor	1.12	344	554	Gravel	22	2	0	400	0.77			400	1.24	1.24	Pave	10,000	\$1,120,000	
LCR 905	905	GATE - BEGIN MAINT	CR 23E	Local Roads	LCRB	NO	NO	R			N/A		0.48			Gravel	22	2	0	400	0.00			400	0.00	0.00		400		
	905	CR 23E	CR 21	Minor Collector	LCRB	NO	NO	R	NA	0	N/A		1.53			Gravel	22	2	0											
	905	BOULDER C 145	CR 15	Major Collector	LCRB	NO	NO	R	303	2004	500	Growth Factor	0.48	145	234	Paved - High Type Bituminous	24	2	6	10,000	0.03			10,000	0.05	0.05		10,000		
	905	CR 15	CR 904	Minor Collector	LCRB	NO	NO	R	297	2004	500	Growth Factor	1.00	297	478	Gravel	24	2	0	400	0.74			400	1.20	1.20	Pave	10,000	\$1,000,000	
Larimer County Total													816.10	864,669	1,687,149															\$235,601,813 \$308,789,913

* = Represents 1/2 of Total Improvement Cost
 ** = Represents 3/4 of Total Improvement Cost



Transportation Plan

APPENDIX B CONCEPTUAL OPINION OF CONSTRUCTION COST

Base Assumptions for Roadway Costs:

- Depth of Aggregate Base Course:
 - 6 inches for widening
 - 8 inches for new mountainous roads and gravel surfacing
 - 9 or 12 inches for new urban roads (Pavement varies – see next item)
 - 12 inches for new rolling terrain roads
- Depth of Hot Bituminous Pavements:
 - 4 inches for mountainous roads
 - 5 inches for rolling terrain roads
 - 6 inches for urban roads w/ 12 inch base
 - 7 inches for urban roads w/ 9 inch base
- Lane Widths = 12 feet
 - 2 Lanes used for 2-lane Reconstruction and New
 - 3 Lanes used for Semi-Urban transitional section
 - 4 Lanes used for 2 to 4 lane widening (Rolling terrain and Urban Streets)
- Shoulder Widths:
 - 2 foot for gravel roads
 - 4 foot for mountainous roads
 - 6 foot for rolling terrain roads
 - Curb with 6 foot bike lanes for Urban streets
- Median Widths = 16 feet for Urban Sections
- Additional Base Course and Pavement was included for urban and 2-lane rolling terrain sections to accommodate turning movements.
- Earthwork Quantities were based on a corridor width equal to the Full Surfacing Width + 75 percent.
- Earthwork depths:
 - 2 feet for widening, gravel roads, and urban streets
 - 5 feet for mountainous terrain widening
 - 7.5 feet for new mountainous roads
- Traffic Signals assumed to be required for 4-Leg Intersections and to include right turn lanes for arterial streets.
- Urban sections include Curb, Gutter and Sidewalk both sides (one side for 2 to 3 lane Semi-Urban Section).
- Mobilization and Traffic Control assumed to be 10 percent of total Construction Bid Items.
- Engineering (Design and Construction) assumed to be 20 percent of total Construction Bid Items.
- Costs do not include right-of-way, landscaping/aesthetics, or utility relocations/upgrades. These should be considered on a case-by-case basis.

Larimer County, Colorado
Conceptual Opinion of Construction Costs

Roadway Type: (select one)

RURAL SECTIONS

- Lane and Shoulder Widening / Pave Gravel Road
- Construct new Two-Lane Road w/ shoulders
- Widen Two-Lane Road to Three-Lane Section w/ shoulders

URBAN SECTIONS

- Widen Two-Lane Road to Three-Lane Section w/ shoulders
- Upgrade Existing Road to Four-Lane Urban Arterial

INTERSECTION IMPROVEMENTS

- Signals (1 per mile - Urban Only)

Estimated Costs

ITEM No.	Description	Unit	Quantity (per Mile)	Unit Cost	Per Mile Cost
1	Clearing and Grubbing	LS	1	\$ 10,000	\$ 10,000
2	Removal of Existing Surfacing	SY	0	\$ 5	*
3	Earthwork (Excavation or Embankment) CIP	CY	24700	\$ 15	\$ 370,500
4	Topsoil and Reseeding	AC	4	\$ 3,000	\$ 12,000
5	Aggregate Base Course (CL 6)	CY	3600	\$ 25	\$ 90,000
6	Hot Bituminous Pavements	TN	5200	\$ 50	\$ 260,000
7	Storm Mainline (36 Inch RCP full-length)	LF	0	\$ 45	\$ -
8	Storm Laterals (18 Inch RCP full section-width +10 feet, every 1500 LF)	LF	0	\$ 30	\$ -
9	Manholes (1 per 1500 LF)	EA	0	\$ 3,000	\$ -
10	Inlets (2 per 1500 LF)	EA	0	\$ 2,750	\$ -
11	Concrete Sidewalk (6 Foot Wide - 2 Sides)	SY	0	\$ 35	\$ -
12	Concrete Curb Ramp (4 Corners)	SY	0	\$ 75	\$ -
13	Curb and Gutter	LF	0	\$ 15	\$ -
14	Traffic Signal (assumed for 4-legs)	EA	0	\$ 250,000	\$ -
15	Subtotal Construction Bid Items (CBI)				\$ 742,500
16	Mobilization and Traffic Control (10% of CBI)				\$ 74,250
17	Construction and Design Engineering (20% of CBI)				\$ 148,500
18	TOTAL CBI + Engineering				\$ 965,250
				USE	\$ 1,000,000

* Removals included in Clearing and Grubbing

Larimer County, Colorado
Conceptual Opinion of Construction Costs

Roadway Type: (select one)

RURAL SECTIONS

- Lane and Shoulder Widening / Pave Gravel Road
- Construct new Two-Lane Road w/ shoulders
- Widen Two-Lane Road to Three-Lane Section w/ shoulders

URBAN SECTIONS

- Lane and Shoulder Widening / Pave Gravel Road
- Widen Two-Lane Road to Three-Lane Section w/ shoulders
- Upgrade Existing Road to Four-Lane Urban Arterial

INTERSECTION IMPROVEMENTS

- Signals (1 per mile - Urban Only)

Estimated Costs

ITEM No.	Description	Unit	Quantity (per Mile)	Unit Cost	Per Mile Cost
1	Clearing and Grubbing	LS	1	\$ 10,000	\$ 10,000
2	Removal of Existing Surfacing	SY	0	\$ 5	*
3	Earthwork (Excavation or Embankment) CIP	CY	48000	\$ 15	\$ 720,000
4	Topsoil and Reseeding	AC	4	\$ 3,000	\$ 12,000
5	Aggregate Base Course (CL 6)	CY	2800	\$ 25	\$ 70,000
6	Hot Bituminous Pavements	TN	6000	\$ 50	\$ 300,000
7	Storm Mainline (36 Inch RCP full-length)	LF	0	\$ 45	\$ -
8	Storm Laterals (18 Inch RCP full section-width +10 feet, every 1500 LF)	LF	0	\$ 30	\$ -
9	Manholes (1 per 1500 LF)	EA	0	\$ 3,000	\$ -
10	Inlets (2 per 1500 LF)	EA	0	\$ 2,750	\$ -
11	Concrete Sidewalk (6 Foot Wide - 2 Sides)	SY	0	\$ 35	\$ -
12	Concrete Curb Ramp (4 Corners)	SY	0	\$ 75	\$ -
13	Curb and Gutter	LF	0	\$ 15	\$ -
14	Traffic Signal (assumed for 4-legs)	EA	0	\$ 250,000	\$ -
15	Subtotal Construction Bid Items (CBI)				\$ 1,112,000
16	Mobilization and Traffic Control (10% of CBI)				\$ 111,200
17	Construction and Design Engineering (20% of CBI)				\$ 222,400
18	TOTAL CBI + Engineering				\$ 1,445,600
				USE	\$ 1,450,000

* Removals included in Clearing and Grubbing

Larimer County, Colorado
Conceptual Opinion of Construction Costs

Roadway Type: (select one)

MOUNTAINOUS SECTIONS

- Lane and Shoulder Widening
- Construct new Two-Lane Road w/ shoulders
- Widen Two-Lane Road to Three-Lane Section w/ shoulders

URBAN SECTIONS

- Widen Two-Lane Road to Three-Lane Section w/ shoulders
- Upgrade Existing Road to Four-Lane Urban Arterial

INTERSECTION IMPROVEMENTS

- Signals (1 per mile - Urban Only)

Estimated Costs

ITEM No.	Description	Unit	Quantity (per Mile)	Unit Cost	Per Mile Cost
1	Clearing and Grubbing	LS	1	\$ 10,000	\$ 10,000
2	Removal of Existing Surfacing	SY	0	\$ 5	*
3	Earthwork (Excavation or Embankment) CIP	CY	82200	\$ 15	\$ 1,233,000
4	Topsoil and Reseeding	AC	4	\$ 3,000	\$ 12,000
5	Aggregate Base Course (CL 6)	CY	7600	\$ 25	\$ 190,000
6	Hot Bituminous Pavements	TN	6900	\$ 50	\$ 345,000
7	Storm Mainline (36 Inch RCP full-length)	LF	0	\$ 45	\$ -
8	Storm Laterals (18 Inch RCP full section-width +10 feet, every 1500 LF)	LF	0	\$ 30	\$ -
9	Manholes (1 per 1500 LF)	EA	0	\$ 3,000	\$ -
10	Inlets (2 per 1500 LF)	EA	0	\$ 2,750	\$ -
11	Concrete Sidewalk (6 Foot Wide - 2 Sides)	SY	0	\$ 35	\$ -
12	Concrete Curb Ramp (4 Corners)	SY	0	\$ 75	\$ -
13	Curb and Gutter	LF	0	\$ 15	\$ -
14	Traffic Signal (assumed for 4-legs)	EA	0	\$ 250,000	\$ -
15	Subtotal Construction Bid Items (CBI)				\$ 1,790,000
16	Mobilization and Traffic Control (10% of CBI)				\$ 179,000
17	Construction and Design Engineering (20% of CBI)				\$ 358,000
18	TOTAL CBI + Engineering				\$ 2,327,000
				USE	\$ 2,350,000

* Removals included in Clearing and Grubbing

Larimer County, Colorado
Conceptual Opinion of Construction Costs

Roadway Type: (select one)

RURAL SECTIONS

- Lane and Shoulder Widening / Pave Gravel Road
- Construct new Two-Lane Road w/ shoulders
- Widen Two-Lane Road to Three-Lane Section w/ shoulders

URBAN SECTIONS

- Widen Two-Lane Road to Three-Lane Section w/ shoulders
- Upgrade Existing Road to Four-Lane Urban Arterial

INTERSECTION IMPROVEMENTS

- Signals (1 per mile - Urban Only)

Estimated Costs

ITEM No.	Description	Unit	Quantity (per Mile)	Unit Cost	Per Mile Cost
1	Clearing and Grubbing	LS	1	\$ 10,000	\$ 10,000
2	Removal of Existing Surfacing	SY	0	\$ 5	*
3	Earthwork (Excavation or Embankment) CIP	CY	61600	\$ 15	\$ 924,000
4	Topsoil and Reseeding	AC	4	\$ 3,000	\$ 12,000
5	Aggregate Base Course (CL 6)	CY	5700	\$ 25	\$ 142,500
6	Hot Bituminous Pavements	TN	6200	\$ 50	\$ 310,000
7	Storm Mainline (36 Inch RCP full-length)	LF	0	\$ 45	\$ -
8	Storm Laterals (18 Inch RCP full section-width +10 feet, every 1500 LF)	LF	0	\$ 30	\$ -
9	Manholes (1 per 1500 LF)	EA	0	\$ 3,000	\$ -
10	Inlets (2 per 1500 LF)	EA	0	\$ 2,750	\$ -
11	Concrete Sidewalk (6 Foot Wide - 2 Sides)	SY	0	\$ 35	\$ -
12	Concrete Curb Ramp (4 Corners)	SY	0	\$ 75	\$ -
13	Curb and Gutter	LF	0	\$ 15	\$ -
14	Traffic Signal (assumed for 4-legs)	EA	0	\$ 250,000	\$ -
15	Subtotal Construction Bid Items (CBI)				\$ 1,398,500
16	Mobilization and Traffic Control (10% of CBI)				\$ 139,850
17	Construction and Design Engineering (20% of CBI)				\$ 279,700
18	TOTAL CBI + Engineering				\$ 1,818,050
				USE	\$ 1,850,000

* Removals included in Clearing and Grubbing

Larimer County, Colorado
Conceptual Opinion of Construction Costs

Roadway Type: (select one)

RURAL SECTIONS

- Lane and Shoulder Widening / Pave Gravel Road
- Construct new Two-Lane Road w/ shoulders
- Widen Two-Lane Road to Three-Lane Section w/ shoulders

URBAN SECTIONS

- Widen Two-Lane Road to Three-Lane Section w/ shoulders
- Upgrade Existing Road to Four-Lane Urban Arterial

INTERSECTION IMPROVEMENTS

- Signals (1 per mile - Urban Only)

Estimated Costs

ITEM No.	Description	Unit	Quantity (per Mile)	Unit Cost	Per Mile Cost
1	Clearing and Grubbing	LS	1	\$ 10,000	\$ 10,000
2	Removal of Existing Surfacing	SY	15900	\$ 5	*
3	Earthwork (Excavation or Embankment) CIP	CY	37000	\$ 15	\$ 555,000
4	Topsoil and Reseeding	AC	5	\$ 3,000	\$ 15,000
5	Aggregate Base Course (CL 6)	CY	10600	\$ 25	\$ 265,000
6	Hot Bituminous Pavements	TN	11500	\$ 50	\$ 575,000
7	Storm Mainline (36 Inch RCP full-length)	LF	5280	\$ 45	\$ 237,600
8	Storm Laterals (18 Inch RCP full section-width +10 feet, every 1500 LF)	LF	256	\$ 30	\$ 7,680
9	Manholes (1 per 1500 LF)	EA	4	\$ 3,000	\$ 12,000
10	Inlets (2 per 1500 LF)	EA	8	\$ 2,750	\$ 22,000
11	Concrete Sidewalk (6 Foot Wide - 1 Side)	SY	3525	\$ 35	\$ 123,375
12	Concrete Curb Ramp (2 Corners)	SY	40	\$ 75	\$ 3,000
13	Curb and Gutter (1 Side)	LF	5300	\$ 15	\$ 79,500
14	Traffic Signal (assumed for 4-legs)	EA	1	\$ 250,000	\$ 250,000
15	Subtotal Construction Bid Items (CBI)				\$ 2,155,155
16	Mobilization and Traffic Control (10% of CBI)				\$ 215,516
17	Construction and Design Engineering (20% of CBI)				\$ 431,031
18	TOTAL CBI + Engineering				\$ 2,801,702
				USE	\$ 2,850,000

* Removals included in Clearing and Grubbing

Larimer County, Colorado
Conceptual Opinion of Construction Costs

Roadway Type: (select one)

RURAL SECTIONS

- Lane and Shoulder Widening
- Construct new Two-Lane Road w/ shoulders
- Widen Two-Lane Road to Three-Lane Section w/ shoulders

URBAN SECTIONS

- Widen Two-Lane Road to Three-Lane Section w/ shoulders
- Upgrade Existing Road to Four-Lane Urban Arterial

INTERSECTION IMPROVEMENTS

- Signals (1 per mile - Urban Only)

Estimated Costs

ITEM No.	Description	Unit	Quantity (per Mile)	Unit Cost	Per Mile Cost
1	Clearing and Grubbing	LS	1	\$ 10,000	\$ 10,000
2	Removal of Existing Surfacing	SY	18400	\$ 5	*
3	Earthwork (Excavation or Embankment) CIP	CY	71200	\$ 15	\$ 1,068,000
4	Topsoil and Reseeding	AC	10	\$ 3,000	\$ 30,000
5	Aggregate Base Course (CL 6)	CY	15300	\$ 25	\$ 382,500
6	Hot Bituminous Pavements	TN	25900	\$ 50	\$ 1,295,000
7	Storm Mainline (36 Inch RCP full-length)	LF	5280	\$ 45	\$ 237,600
8	Storm Laterals (18 Inch RCP full section-width +10 feet, every 1500 LF)	LF	460	\$ 30	\$ 13,800
9	Manholes (1 per 1500 LF)	EA	4	\$ 3,000	\$ 12,000
10	Inlets (2 per 1500 LF)(x2 for Median)	EA	8	\$ 2,750	\$ 22,000
11	Concrete Sidewalk (6 Foot Wide - 2 Sides)	SY	7040	\$ 35	\$ 246,400
12	Concrete Curb Ramp (4 Corners)	SY	80	\$ 75	\$ 6,000
13	Curb and Gutter (x2 for Median)	LF	21200	\$ 15	\$ 318,000
14	Traffic Signal (assumed for 4-legs)	EA	1	\$ 250,000	\$ 250,000
15	Subtotal Construction Bid Items (CBI)				\$ 3,891,300
16	Mobilization and Traffic Control (10% of CBI)				\$ 389,130
17	Construction and Design Engineering (20% of CBI)				\$ 778,260
18	TOTAL CBI + Engineering				\$ 5,058,690
				USE	\$ 5,100,000

* Removals included in Clearing and Grubbing



Quantity Calculations

Lane & Shoulder Widening / Pave Gravel Road

Number of Lanes:	2	(Mountainous)	
Lane Width:	12		
Shoulder Width:	2		
Median Width:	0		
Total Pavement Width:	28 feet	No pavements - minimal shoulders	
Aggregate Depth:	8 inches		
Pavement Depth:	0 inches		
Assumed Earthwork Depth:	2	Use 2' to smooth Native Terrain	
			USE
Removal of Surfacing	per mile Area (SY):	Assume part of Clearing & Grubbing	-
Earthwork	per mile Volume (CY):	<u>19164</u> (Uncl. Ex or Embankment)	19,200
Topsoil/Reseeding	per mile Area (Acre):	<u>n/a</u> (Earthwork Area less Roadway Area)	n/a
Aggregate Base	per mile Volume (CY):	<u>3650</u> (Class 6)	3,700
Hot Bit. Pavement	per mile Volume (Ton):	<u>0</u> (Includes Emulsifieds) + 33%	-



Quantity Calculations

Lane & Shoulder Widening / Pave Gravel Road

Number of Lanes:	2	(Mountainous)	
Lane Width:	12		
Shoulder Width:	4		
Median Width:	0		
Total Pavement Width:	32 feet	No provision for turn lanes	
Aggregate Depth:	6 inches		
Pavement Depth:	4 inches		
Assumed Earthwork Depth:	5	Use 5' reconstruction, 5' new (rolling/urban)/7.5' new (mountainous)	
			USE
Removal of Surfacing	per mile Area (SY):	Assume part of Clearing & Grubbing	-
Earthwork	per mile Volume (CY):	54756 (Uncl. Ex or Embankment)	54,800
Topsoil/Reseeding	per mile Area (Acre):	3.88 (Earthwork Area less Roadway Area)	4
Aggregate Base	per mile Volume (CY):	3129 (Class 6)	3,200
Hot Bit. Pavement	per mile Volume (Ton):	4543 (Includes Emulsifieds) + 33%	4,600

Number of Lanes:	2	(Rolling)	
Lane Width:	12		
Shoulder Width:	6		
Median Width:	0		
Total Pavement Width:	36 feet	No provision for turn lanes	
Aggregate Depth:	6 inches		
Pavement Depth:	4 inches		
Assumed Earthwork Depth:	2	Use 2' reconstruction, 5' new (rolling/urban)/7.5' new (mountainous)	
			USE
Removal of Surfacing	per mile Area (SY):	Assume part of Clearing & Grubbing	-
Earthwork	per mile Volume (CY):	24640 (Uncl. Ex or Embankment)	24,700
Topsoil/Reseeding	per mile Area (Acre):	3.27 (Earthwork Area less Roadway Area)	4
Aggregate Base	per mile Volume (CY):	3520 (Class 6)	3,600
Hot Bit. Pavement	per mile Volume (Ton):	5111 (Includes Emulsifieds) + 33%	5,200

Number of Lanes:	2	(Urban)	
Lane Width:	12		
Shoulder Width:	2		
Median Width:	0		
Total Pavement Width:	28 feet	No provision for turn lanes	
Aggregate Depth:	6 inches		
Pavement Depth:	6 inches		
Assumed Earthwork Depth:	5	Use 2' reconstruction, 5' new (rolling/urban)/7.5' new (mountainous)	
			USE
Removal of Surfacing	per mile Area (SY):	Assume part of Clearing & Grubbing	-
Earthwork	per mile Volume (CY):	47911 (Uncl. Ex or Embankment)	48,000
Topsoil/Reseeding	per mile Area (Acre):	2.55 (Earthwork Area less Roadway Area)	3
Aggregate Base	per mile Volume (CY):	2738 (Class 6)	2,800
Hot Bit. Pavement	per mile Volume (Ton):	5963 (Includes Emulsifieds) + 33%	6,000



Quantity Calculations

New 2 Lane Sections

Number of Lanes:	2	(Mountainous)	
Lane Width:	12		
Shoulder Width:	4		
Median Width:	0		
Total Pavement Width:	32 feet	(+20 percent for turn lanes) ABC and HBP	
Aggregate Depth:	12 inches		
Pavement Depth:	5 inches		
Assumed Earthwork Depth: (Averaged)	7.5	Use 5' reconstruction, 5' new (rolling/urban)/7.5' new (mountainous)	USE
Removal of Surfacing	per mile Area (SY):	Assume part of Clearing & Grubbing	-
Earthwork	per mile Volume (CY):	82133 (Uncl. Ex or Embankment)	82,200
Topsoil/Reseeding	per mile Area (Acre):	3 (Earthwork Area less Roadway Area)	3
Aggregate Base	per mile Volume (CY):	7509 (Class 6)	7,600
Hot Bit. Pavement	per mile Volume (Ton):	6815 (Includes Emulsifieds)	6,900

Number of Lanes:	2	(Rolling)	
Lane Width:	12		
Shoulder Width:	6		
Median Width:	0		
Total Pavement Width:	36 feet	(+20 percent for turn lanes) ABC and HBP	
Aggregate Depth:	8 inches		
Pavement Depth:	4 inches		
Assumed Earthwork Depth:	5	Use 2' reconstruction, 5' new (rolling/urban)/7.5' new (mountainous)	USE
Removal of Surfacing	per mile Area (SY):	Assume part of Clearing & Grubbing	-
Earthwork	per mile Volume (CY):	61600 (Uncl. Ex or Embankment)	61,600
Topsoil/Reseeding	per mile Area (Acre):	3.27 (Earthwork Area less Roadway Area)	4
Aggregate Base	per mile Volume (CY):	5632 (Class 6)	5,700
Hot Bit. Pavement	per mile Volume (Ton):	6133 (Includes Emulsifieds)	6,200



Quantity Calculations

2 to 3 Lane Reconstruction (Semi-Urban)

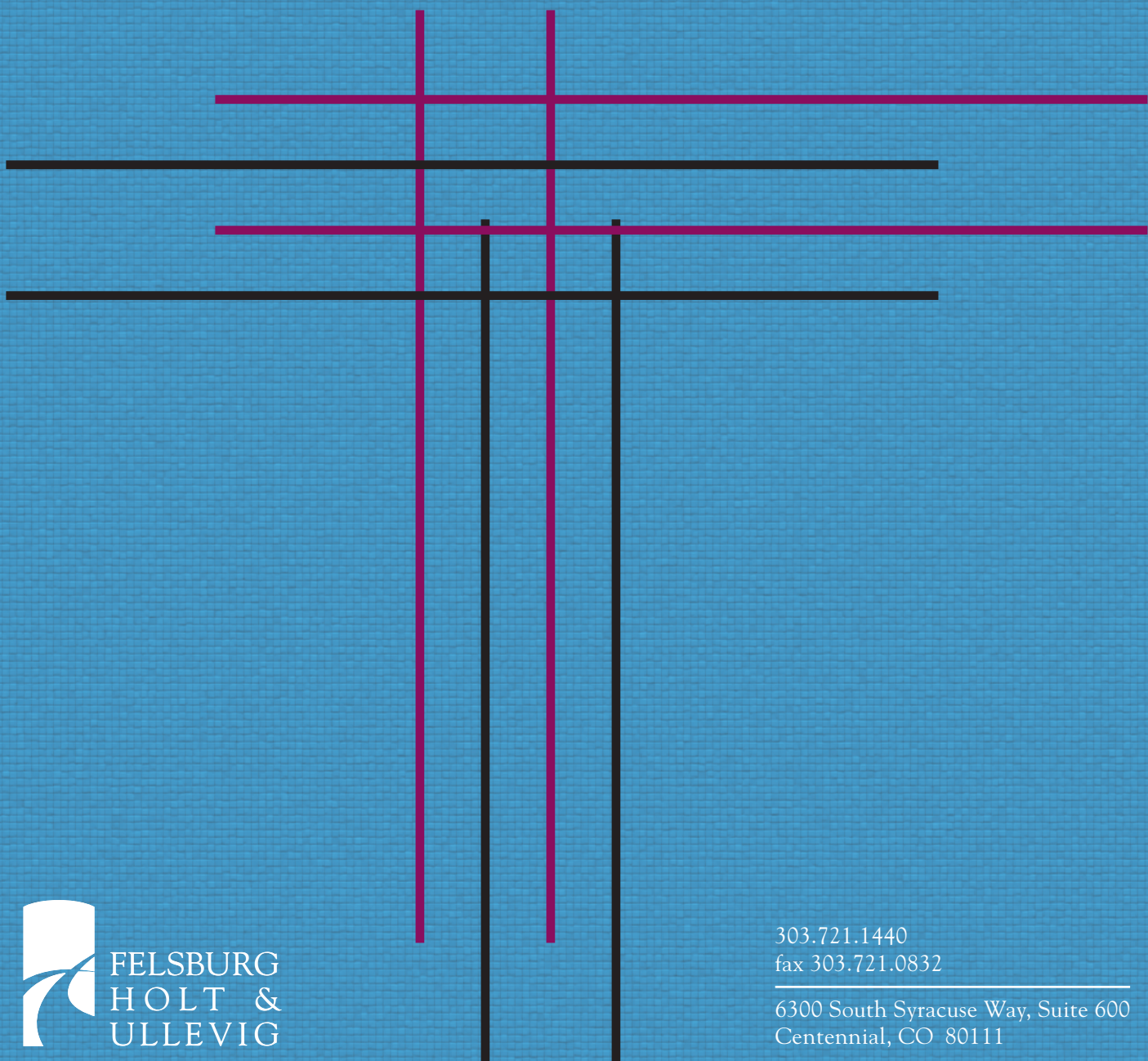
Number of Lanes:	3	(Semi-Urban Collector)	
Lane Width:	12		
Shoulder Width:	6	Bike Lane (Curb, Gutter & Sidewalk One Side Only)	
Median Width:	0		
Total Pavement Width:	54 feet	Includes Turn Lanes	
Aggregate Depth:	12 inches		
Pavement Depth:	6 inches		
Assumed Earthwork Depth:	2 Use 2' reconstruction, 5' new (rolling/urban)/7.5' new (mountainous)		
			USE
Removal of Surfacing	per mile Area (SY):	15840 (50% of new)	15,900
Earthwork	per mile Volume (CY):	36960 (Uncl. Ex or Embankment)	37,000
Topsoil/Reseeding	per mile Area (Acre):	4.91 (Earthwork Area less Roadway Area)	5
Aggregate Base	per mile Volume (CY):	10560 (Class 6)	10,600
Hot Bit. Pavement	per mile Volume (Ton):	11500 (Includes Emulsifieds)	11,500



Quantity Calculations

4 Lane Upgrade

Number of Lanes:	4	(Urban Arterial)	
Lane Width:	12		
Shoulder Width:	6	Bike Lane	
Median Width:	8	(1/2 width per side)	
Total Pavement Width:	104 feet	Includes Turn Lanes	
Aggregate Depth:	9 inches		
Pavement Depth:	7 inches		
Assumed Earthwork Depth:	2 Use 2' reconstruction, 5' new (rolling/urban)/7.5' new (mountainous)		
			USE
Removal of Surfacing	per mile Area (SY):	18304 (30% of new)	18,400
Earthwork	per mile Volume (CY):	71182 (Uncl. Ex or Embankment)	71,200
Topsoil/Reseeding	per mile Area (Acre):	9.45 (Earthwork Area less Roadway Area)	10
Aggregate Base	per mile Volume (CY):	15253 (Class 6)	15,300
Hot Bit. Pavement	per mile Volume (Ton):	25839 (Includes Emulsifieds)	25,900



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