

Town of

# Johnstown

## Transportation Master Plan

February 2008



FELSBURG  
HOLT &  
ULLEVIG

*engineering paths to transportation solutions*



# Transportation Master Plan

*Prepared for:*

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## 1.0 INTRODUCTION

### 1.1 *Overview of Johnstown*

The Town of Johnstown is located in the northern Front Range of Colorado, just east of Interstate 25 (I-25). Johnstown lies approximately 45 miles north of the Denver metropolitan area, the economic center of Colorado. Although Johnstown has agricultural, industrial and commercial employment opportunities, it also serves as a bedroom community for the larger communities nearby. It is situated in close proximity to Loveland and Fort Collins to the northwest, Windsor and Greeley to the northeast, Milliken to the east, and Berthoud to the southwest. Denver and much of the Front Range have been experiencing strong economic growth since the 1990's, and it is anticipated that Johnstown will experience continued growth and development pressures in the foreseeable future.

The central part of the community is situated approximately four miles east of I-25 in Weld County (see **Figure 1**). State Highway (SH) 60 (South First Street) is currently the main east-west highway in Johnstown. To the east, SH 60 continues through the nearby town of Milliken and eventually ends at US 85 just north of the Town of Platteville. The primary north-south road through the community is Weld County Road (WCR) 17 which is called Parish Avenue through downtown Johnstown. Residential development in the community has primarily focused along these two roads. Since 2000, the community has grown extensively to the north and west: along I-25 and along US 34. This has greatly expanded the size of the community and added extensive business uses in the 2534 and Iron Horse developments. These newly annexed areas include residential as well as other commercial developments.

There have been extensive annexations within Johnstown's planning area. Current planning boundaries are generally bounded by WCR 38 on the south, CR 19 on the east, one mile north of US 34 on the north, and one mile west of I-25 on the west. The northwest quadrant of the planning area is in Larimer County. Much of the land within Johnstown's planning boundaries is still used for agricultural production.

### 1.2 *Planning Efforts in the Johnstown Area*

The Town of Johnstown and its citizens have been very active in planning the future of their community. An extensive process involving Johnstown residents resulted in the Johnstown Comprehensive Plan, which was adopted in January 1998. The first transportation plan (Johnstown Transportation Plan) was adopted in October 1999 and received a minor revision in August 2002. The most recent Johnstown Area Comprehensive Plan was adopted in December 2006. This Transportation Master Plan has been prepared based on the vision and growth forecasts contained in the 2006 Comprehensive Plan. There have been a number of other planning efforts in the Johnstown area that have been prepared by both regional and local agencies. These include the following:

- ▶ Downtown Johnstown Improvement Master Plan, December 2007
- ▶ Impact Fees, Johnstown Colorado, March 2005
- ▶ Johnstown, Milliken, & Windsor Short-Range Transit Plan, November 2006
- ▶ Johnstown/Milliken Parks, Trails, Recreation and Open Space Master Plan, June 2003

- ▶ Johnstown Design Criteria and Construction Regulations, April 2004
- ▶ SH 60 Environmental Overview Study, March 2007
- ▶ North Front Range 2035 Regional Transportation Plan (in process)
- ▶ North I-25 Environmental Impact Statement (in process)
- ▶ Weld County Roadway Classification Plan, June 2002
- ▶ Larimer County Transportation Plan, August 2006
- ▶ Milliken Transportation Plan, March 2000
- ▶ US 34 Corridor Optimization Plan, May 2003
- ▶ US 34 Access Control Plan, May 2003
- ▶ US 34 EA: US 287 to LCR 3 Environmental Assessment, April 2007
- ▶ SH 402 Environmental Assessment, July 2007
- ▶ Weld County I-25 Parallel Arterial Study, September 2003

### *1.3 Transportation Vision*

The Johnstown Area Comprehensive Plan 2006 (JACP) provides a clear statement about how the Town should grow. This document identifies an ambitious Vision and achievable Framework for the Plan. There are seven components that comprise the framework for the Comprehensive Plan. Multi-Modal Transportation Corridors will connect areas within the community and the region while integrating neighborhoods and activity centers. The Comprehensive Plan includes the following goals for Multi-Modal Corridors (MC):

- ▶ **Goal MC 1** – A transportation plan that recognizes the interrelationships between land use and transportation and supports as well as complements the Town’s land use, economic and development plans.
- ▶ **Goal MC 2** – An adequate, efficient, safe and comprehensive transportation system integrating all modes of transportation.
- ▶ **Goal MC 3** – Major corridors such as I-25 and US 34 should sensitively blend transportation, land use and aesthetic elements.
- ▶ **Goal MC 4** – Explore opportunities for the community, and especially transit-dependent citizens, to utilize mass transportation for community and regional travel.

### *1.4 Implementation Strategies*

The Comprehensive Plan identifies the following potential implementation strategies for consideration:

- ▶ Promote compact growth to set the stage for transit options.
- ▶ Develop and implement pedestrian crossing improvements at major thoroughfares.
- ▶ Establish a local bus system as soon as feasible.
- ▶ Promote future local stops and links to regional transit.

- ▶ Encourage connection between Village Centers, neighborhoods and Downtown through trails and promote alternative transportation means.
- ▶ Prepare and annually update a five-year capital improvement program (CIP) that lists public improvement projects required to upgrade existing streets and sidewalks. Implement the first year of the program with the annual budget.
- ▶ Investigate changes and improvements to the Johnson's Corner interchange on I-25.
- ▶ Adopt a Town-wide access control policy.
- ▶ Establish street standards for all new development including street widths, sidewalks and bicycle lanes.
- ▶ Require developments to participate in street widening activities by providing the necessary improvements to their property.
- ▶ Investigate funding mechanisms for future transportation improvements.
- ▶ Require new development to provide a traffic impact study analyzing requirements for internal roads and the impacts to existing roads and intersections.
- ▶ Identify convenient locations for park and ride commuter lots and bus rapid transit (BRT) transfer areas. Evaluate the feasibility of a BRT transfer station in the Johnstown downtown.
- ▶ Enter into discussion and agreements with new and existing industries to redirect their truck traffic away from the Downtown Center to appropriate routes that generate the least amount of visual, environmental and traffic impact on the community.
- ▶ Work with the North Front Range Metropolitan Planning Organization, Windsor, Milliken and other municipalities to plan for future regional transit options.

## 1.5 *Acknowledgements*

### Town Council

- ▶ Mayor Troy Mellon
- ▶ Mayor Pro Tem Chad Young
- ▶ Clair Hull
- ▶ Scott James
- ▶ Gary Lebsack
- ▶ Mark Romanowski
- ▶ Aaron Townsend

### Planning & Zoning Commission

- ▶ Chair Eric Longdo
- ▶ Vice Chair Lila Montez
- ▶ Leonard Bossley

- ▶ Jim Dowling
- ▶ Terry Eady
- ▶ John Mason
- ▶ Merwyn McGuire

#### Town Staff

- ▶ Roy Lauricello – Town Manager
- ▶ John Franklin – Town Planner
- ▶ Bill Linnane – Director of Public Works

## 2.0 EXISTING TRANSPORTATION SYSTEM

A thorough inventory of Johnstown's transportation system was completed for the 1999 Johnstown Transportation Plan (JTP). The information on the various figures showing the previous conditions were again reviewed in the field so that improvements made over the last eight years could be included in this update. In addition to reviewing information associated with the existing town street system (i.e., laneage, paving, traffic control devices, etc.), recent traffic volume counts were obtained from the Colorado Department of Transportation (CDOT), Weld County, and recent traffic impact studies within the Town. Overall, this inventory reestablishes the existing level of transportation services provided in the community and serves as a basis for identifying short-range and long-range transportation needs.

### 2.1 Roadway Conditions

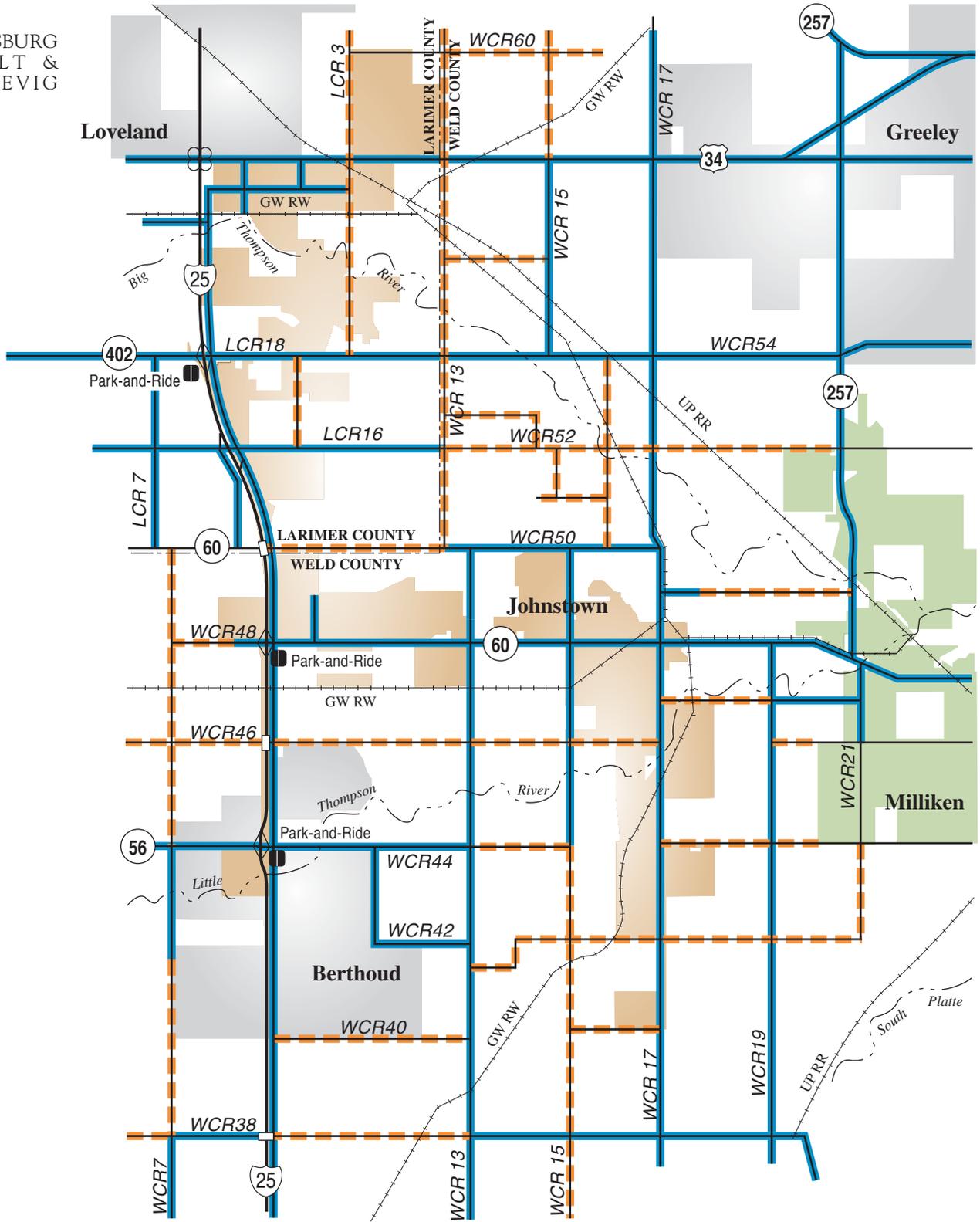
The principal component of the Johnstown transportation system is the roadway network. **Figure 1** illustrates the existing status of the town street system. Major streets that serve the Town of Johnstown are described in the following sections.

#### REGIONAL ROADWAYS

Several roadways in the Johnstown area serve as regional connections to other North Front Range communities and to the Denver metropolitan area. These regional roadways include I-25, US 34, SH 56, SH 60, SH 257, and SH 402.

**I-25** is a four-lane interstate freeway that provides the primary north-south connection along the Front Range of Colorado. The Johnstown planning area is served by four full movement interchanges and one partial movement interchange along I-25. Short-term and long range future improvements to I-25 and its interchanges are currently being studied by the North I-25 Environmental Impact Study (EIS). Possible improvements include widening I-25 to six lanes (either general purpose or restricted to high occupancy and tolled vehicle – HOT lanes) and upgrading all of the interchanges. Although potential improvements have been identified, sources of funding for all of these extensive improvements have not. Thus, construction of many of these improvements may extend beyond the 2035 planning horizon unless additional regional, state, and/or federal funds are made available. The interchanges include the following:

- ▶ **SH 56** – The southern interchange is located at SH 56 and has a tight diamond configuration which is shifted to the west. It also serves the Town of Berthoud which has annexed much of the land surrounding the interchange over the last several years. The Hart property in the southwest quadrant of the interchange has been annexed to Johnstown as well as the I-25 right-of-way (ROW) between SH 56 and SH 60. Weld County Road (WCR) 44 is the east leg of this interchange. This arterial provides access to the Northmoor subdivision and will be a southerly access to Johnstown in the future. The configuration of this interchange will change to a more conventional diamond (wider spacing between the ramp intersections and with the frontage road) as the jog in the I-25 alignment is removed.



**LEGEND**

- = Paved Roads
- = Gravel Roads



North

**Figure 1**  
Existing Roadway System

- ▶ **SH 60** – The second interchange is located two miles to the north at SH 60 which directly serves the historically developed portions of Johnstown. This interchange has a tight diamond configuration with the frontage road located immediately east of the ramp intersections. The west leg of this interchange is WCR 48. The I-25 Gateway Center is in the northwest quadrant of the interchange. This development primarily contains light industrial businesses and has expanded steadily in recent years. CDOT has plans to signalize the ramp and frontage road intersections in the next few years. Future plans show the interchange being expanded with normal spacing (approximately 600 feet) between the ramp intersections. Plans for future developments on the east side of I-25 include relocating the frontage road intersection with SH 60 an addition 600 feet to the east.
- ▶ **LCR 16 (Johnsons Corner)** – Two miles further north is the Johnsons Corner interchange. This is a partial interchange with off-ramps from northbound and southbound I-25 only. Johnsons Corner is a truck stop and has a number of related commercial developments (motel, RV park, etc.) in the immediate vicinity. Since it was annexed to Johnstown several years ago, it has been expanded, and the restaurant was extensively renovated. Future planning for the interchange includes adding the two on-ramps that are currently missing and creating a conventional diamond configuration. The frontage road would be relocated to the east in coordination with future development of Johnsons Corner.
- ▶ **SH 402 / LCR 18** – The fourth interchange is located at SH 402 which is one mile north and provides access from Loveland. SH 402 ends at I-25, and the east leg of this interchange is Larimer County Road (LCR) 18. The intersections at this tight diamond interchange were recently signalized. The current tight spacing between the ramps and with the frontage road will be improved in the future. Developments in the northeast and southeast quadrants of the interchange accommodate shifting the frontage road to the east. The spacing between the ramp intersections will be increased, and I-25 will be shifted to the east to increase the radius of the curve for safety reasons.
- ▶ **US 34** – The final interchange in Johnstown is the cloverleaf interchange between I-25 and US 34. This interchange is currently over capacity and has been the subject of extensive studies by CDOT. It will be reconfigured in stages to have directional ramps and has high priority for regional and state funding.

**US 34** is the primary east-west expressway through Larimer and Weld Counties and provides a direct connection between Loveland, Johnstown, and Greeley. US 34 has been built to an expressway standard with four lanes, a wide median, and controlled access. US 34 has received the attention of several recent planning studies. The [US 34 Access Control Plan](#) and [US 34 Corridor Optimization Study](#) were completed in 2003 and provide the context for widening US 34 to six lanes in the future. The location and configuration of access points along the freeway were also determined. The [US 34 Environmental Assessment](#) provides more detailed planning for widening US 34 west of LCR 3.

**SH 56** is a two-lane highway that runs east-west from I-25 to the west and provides a connection to the Town of Berthoud. It is on the southwestern edge of the study area, and its interchange with I-25 is important to future development in the Johnstown planning area. In addition to the two through lanes, it has wide (10 feet) paved shoulders and is signed for 65

mph. The North Front Range Metropolitan Planning Organization (NFR MPO) is currently preparing an Access Control Plan for SH 56 and portions of WCR 44 east to WCR 13.

**SH 60** runs east-west through the center of Johnstown and connects to the Town of Milliken further to the east. It is named South First Street through Johnstown. It is a two-lane facility with wide (8 feet) paved shoulders and is signed for 55 mph from I-25 to east of WCR 13. Within Johnstown, on-street, parallel parking is allowed on portions of South First Street. There are major intersections with the north-south county roads, but several of these have recently been improved to add auxiliary lanes for left or right turns. The intersection of SH 60 and Parish Avenue (WCR 17) was reconstructed within the last year. CDOT recently completed the [SH 60 Environmental Overview Study](#) (2007) in close cooperation with Johnstown and Milliken. Future roadway cross sections and access control were determined for SH 60 in Johnstown. At I-25, SH 60 utilizes the frontage road to make a one-mile jog to the north (to WCR 50). It turns to the west where there is an underpass at I-25. It continues to the west to Campion, an unincorporated area of Larimer County.

**SH 257** is a north-south highway located to the east of Johnstown. It begins at SH 60 in Milliken, connects north to Windsor, and ends at SH 14. It is a two-lane facility with wide (6 feet) paved shoulders and is signed for 55 mph.

**SH 402** is also an east-west roadway, located in the northwest portion of Johnstown's planning area. SH 402 west of I-25 connects to the City of Loveland and was the subject of a recent study to allow widening to four lanes ([SH 402 Environmental Assessment](#)). To the east of I-25, it becomes LCR 18. LCR 18 is designed to a lower standard and has 4 feet wide shoulders in addition to the two through lanes. It is signed for 55 mph.

## MAJOR LOCAL STREETS

The Town of Johnstown has a network of through roads primarily located along section lines (see **Figure 1**). Many of these roads are paved and have two lanes with 24 feet of pavement. None of them have paved shoulders, although most have narrow, unpaved shoulders. **Figure 2** provides an inventory of these paved roadways. In addition to showing the number and width of through travel lanes, the width of paved and unpaved shoulders is provided. A number of county roads in the Johnstown area are unpaved. Since 2000, Weld County and Johnstown paved WCR 15 (Teleen Avenue) south of WCR 50. Weld County also paved WCR 50 between WCR 13 and WCR 17.

The primary north-south section line road in Johnstown is WCR 17, which is named Parish Avenue in Johnstown. Downtown Johnstown is concentrated along Parish Avenue between North and South First Streets, and diagonal parking is allowed in this section. The intersection of Parish Avenue and South First Street was recently reconstructed which removed the jog in the alignment of SH 60, provided left-turn lanes on all approaches, and built new signals. This has greatly improved the capacity of the intersection. Based on a recommendation of the [Johnstown Area Comprehensive Plan](#), the downtown area was recently studied in-depth to determine needed physical improvements that can maintain and expand its economic vitality in the community ([Downtown Johnstown Improvement Master Plan – 2007](#)).



The network of section line roads provides good access in both north-south and east-west directions. County roads have been annexed and improved to the arterial cross section standard found in the 2002 JTP. These include WCR 17 adjacent to the Pioneer Ridge neighborhood and WCR 13 adjacent to the Clearview and Corbett Glen subdivisions. There are segments of county roads that will need to be paved in the future as adjacent development is constructed. High priority segments include WCR 50/LCR 14 between I-25 and WCR 13, WCR 44 from WCR 13 to WCR 15, WCR 46 from WCR 15 to WCR 17, and WCR 46.5 from WCR 17 to Milliken.

## 2.2 *Traffic Control Devices*

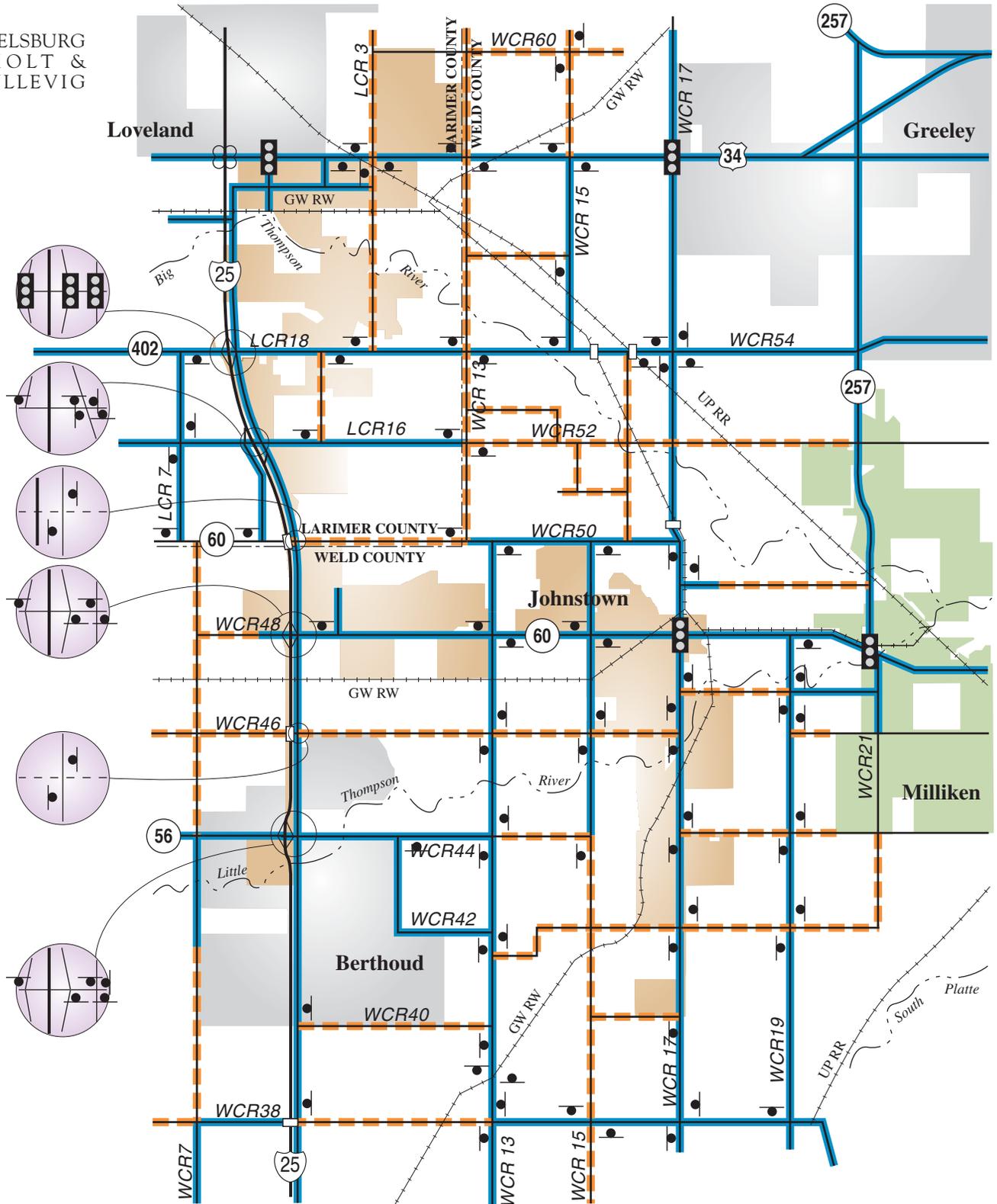
**Figure 3** illustrates existing traffic control devices in the Johnstown planning area. The purpose of intersection traffic control is to ensure safe and efficient traffic operation by assigning right-of-way between conflicting traffic streams. This assignment of right-of-way provides uniform and predictable movements of vehicles and pedestrians. Typical intersection traffic control may consist of a traffic signal or a STOP sign on the minor street approaches. In 1999, there was only one signalized intersection in Johnstown: at South First Street and Parish Avenue. Since then a number of signals on the periphery of the community have been installed. There are a number of intersections with one or two-way stop control. Two intersections have four-way stop control: LCR 16/East Frontage Road (Johnsons Corner) and WCR 17/WCR 54.

Another form of traffic control is the posted speed limit of a roadway. An inventory of existing town speed limits was performed and is shown on **Figure 4**. The maximum speed limit for roads under Johnstown's jurisdiction is 45 mph. Rural county roads which have posted speed limits are generally 55 mph. Some county roads have no specific posted speed limit, and these are also assumed to be 55 mph. There are lower speed limits along South First Street and Parish Avenue in the developed areas of Johnstown. US 34 and SH 56 have a speed limit of 65 mph, and I-25 is 75 mph. Although not shown, speed limits along local streets are typically 25 mph or less (reduced speed limits are provided in school zones and in other areas with high pedestrian activity).

There is generally good continuity of speed limits along all of the roadways within the town. That is, speed limits are consistent between sections of the road and changes are tied to differences in the type or density of adjacent land use. Almost all of the roads in Johnstown are straight, and slower speeds through curves are not a concern. Speed limits and traffic operations should be monitored in the future as further growth occurs to make sure that vehicular speeds remain within appropriate and safe ranges.

## 2.3 *Traffic Volumes*

Extensive traffic volume information is collected by Weld County and CDOT on a yearly basis in the Johnstown area. Weld County regularly conducts coverage traffic counts and recent (2001 through 2006) traffic count data were available for all major roads in the county. CDOT makes annual estimates of volumes on state highways, and 2006 volumes were obtained for these roadways. No traffic information was available for the Larimer County portion of the planning area.



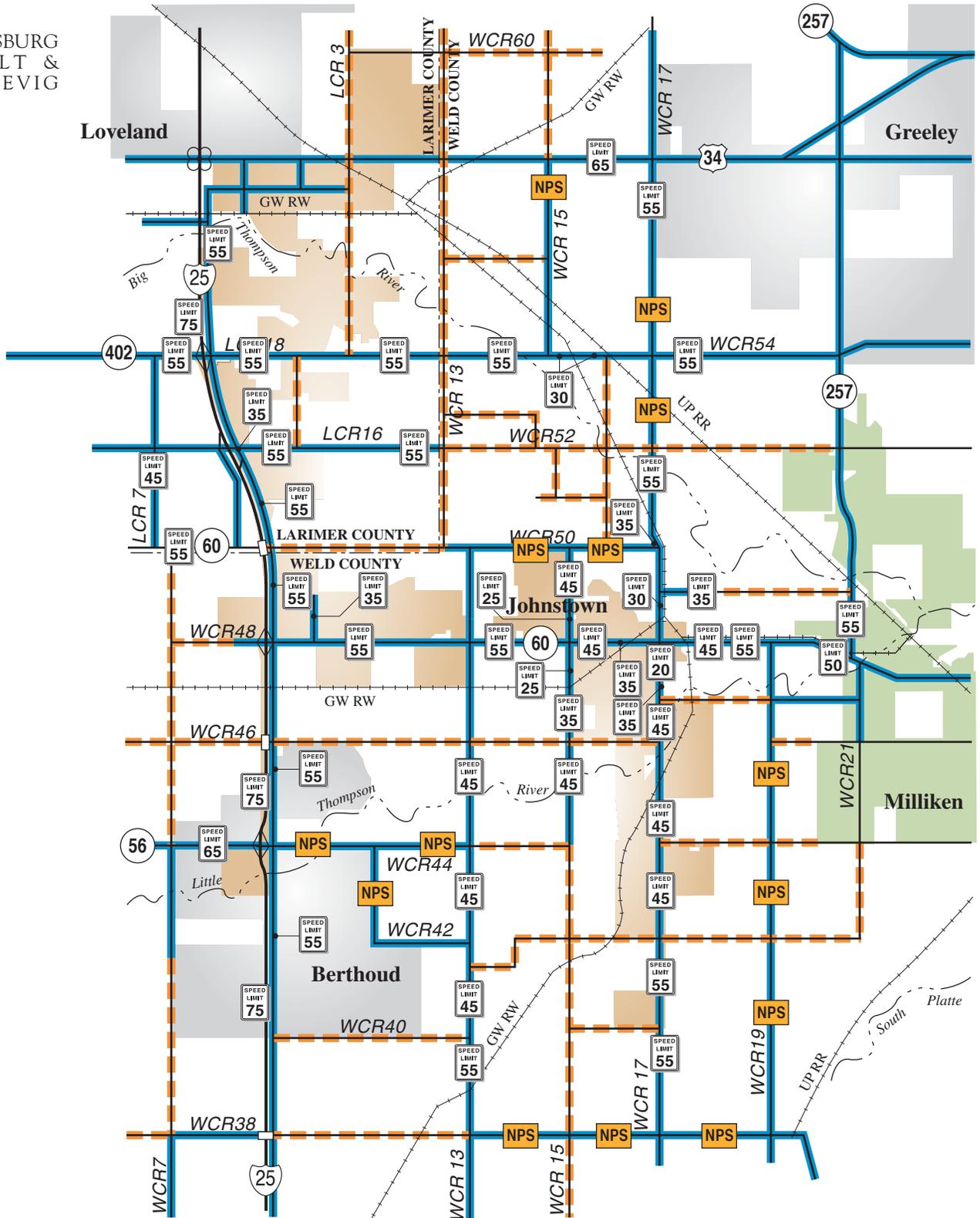
**LEGEND**

- = Paved Roads
- = Gravel Roads
- = Stop Sign
- = Traffic Signal
- = Railroad Crossing with Gate



North

**Figure 3**  
Traffic Control Devices



**LEGEND**

- = Paved Roads
- - - = Gravel Roads
-  = Posted Speed Limit
-  = No Posted Speed (assume 55mph)



North

**Figure 4**  
Existing Speed Limits

**Figure 5** shows 24-hour (daily) traffic volume counts along major roadways in the town. As would be expected, I-25 has by far the highest volume with almost 67,000 vehicles per day (vpd) just south of US 34. Volumes on the other state highways show a wide range with 40,000 vpd on US 34, 11,300 vpd on SH 402, 5,400 vpd on SH 56, up to 12,000 vpd on SH 60, and 4,500 vpd on SH 257. A comparison with the 1999 volumes in the JTP reveals how significantly traffic has increased in the last eight years. Local streets within the Town have also shown similar increases in traffic volumes. **Table 1** provides a growth comparison for several important state highways in Johnstown.

**Table 1. Recent Growth in Traffic Volumes (Vehicles per Day)**

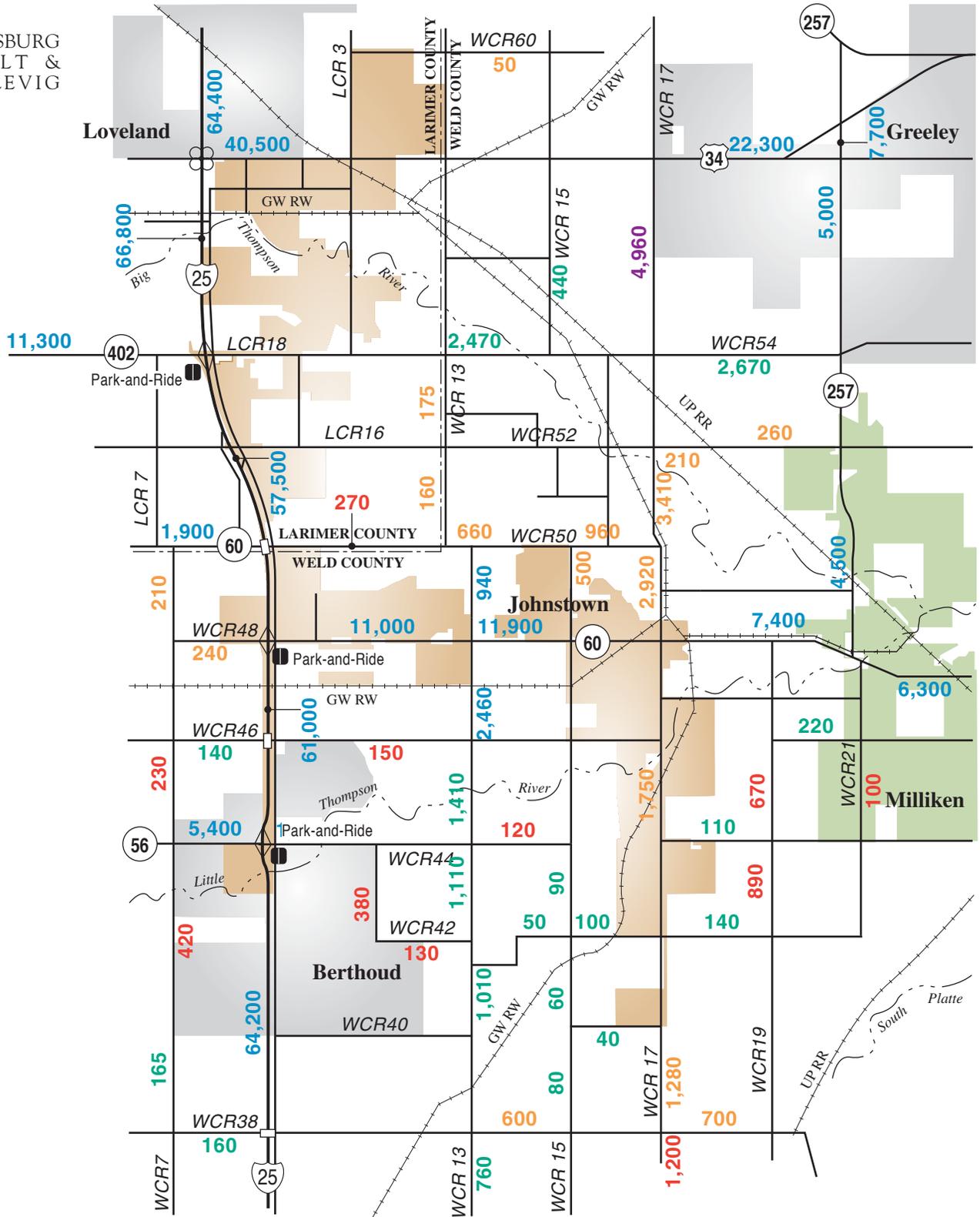
Roadway	1999 Volumes	2006 Volumes
I-25 at SH 60	48,300	57,500
US 34 east of I-25	27,900	40,500
SH 60 east of I-25	4,500	11,000

## 2.4 Other Transportation Modes

Johnstown is the major center of activity for the Great Western Railroad (GWRR). This short-haul railroad provides local service to industries in the Johnstown, Milliken, Loveland, Windsor, Greeley, Mead, and Longmont. The Union Pacific Railroad (UPRR) interconnects with the GWRR in order to provide access to the nation's rail network. Rail cars are dropped off by the UPRR at Kelim, a switch and siding located near US 34 and LCR 3. The GWRR picks up these cars and moves them southeast to the vicinity of Johnstown. GWRR tracks parallel WCR 17 to the south of WCR 50. The GWRR then distributes cars throughout its system. Outgoing cars are marshaled on a triple track running east-west parallel to SH 60 on the east side of town. There are extensive switches in this area serving the yard and Colorado Sweet Gold, Inc. on the south side of SH 60. The outgoing cars are then picked up by the UPRR at a switch near Milliken. Although there is daily activity on the currently active lines of the GWRR, the volume of trains is not large enough to warrant grade separations in the Johnstown area.

Opportunities for alternative transportation in the community are currently limited, and there is currently no scheduled public transit service provided in the community. The Weld County Department of Human Services (Weld County Area Agency on Aging) provides van service for elderly and handicapped residents of the Johnstown area on an appointment basis. Transportation for the senior nutrition program is also provided on Wednesdays. Three Park and Ride lots have been located along I-25 at interchanges (SH 56, SH 60, and SH 402) in the Johnstown study area.

Johnstown has made a significant commitment to providing paths and connections for pedestrians and bicyclists. The Johnstown/Milliken Parks, Trails, Recreation and Open Space Master Plan provides guidance for future off-street facilities. Johnstown's street standards include wide sidewalks and on-street bikeways on all arterial streets within the community.



LEGEND	
XXXX	= 2001 Daily Traffic Volumes
XXXX	= 2002 Daily Traffic Volumes
XXXX	= 2003 Daily Traffic Volumes
XXXX	= 2004 Daily Traffic Volumes
XXXX	= 2006 Daily Traffic Volumes

Figure 5

Current Daily Traffic Volumes



## 3.0 FORECASTED GROWTH

In order to properly identify potential improvement projects that will be required for the transportation system in Johnstown, it is important to first understand the nature and volume of traffic in the planning area in the future. It is also useful to understand existing traffic flow patterns, as presented in the previous chapter. The analysis of future traffic volumes for the Johnstown planning area is based on the 2035 regional travel demand model recently developed by the North Front Range Metropolitan Planning Organization (NFR MPO). This computerized model includes the entire North Front Range region. The model area is generally bounded by SH 66 on the south, Larimer County Road 88 on the north, the foothills west of Fort Collins, and east of Greeley. The NFR model was used as the basis for developing forecasts for Johnstown because it provides the context of Johnstown in relation to the rest of northern Colorado.

Two basic inputs to the computer model are the land use estimates and the transportation network. The amount of traffic which different types of land uses (residential, retail, office, industrial, etc.) generate has been measured for the North Front Range and around the country. The amount of development (number of households, type of businesses and employment, etc.) can then be used to determine the volume of traffic that will be generated from any specified area. In order to develop these specific allocations of residential and commercial development throughout the North Front Range, the NFR MPO has subdivided its planning area into 950 traffic analysis zones (TAZ's). The 2035 regional model includes the system of TAZ's developed for the 1999 JTP, and based on a detailed review, no further subdivision of these zones was deemed necessary to accurately forecast future traffic volumes in the Johnstown planning area. **Figure 6** shows the TAZ's for the Johnstown planning area.

The NFR 2035 Fiscally Constrained transportation network has been used as the basis for the modeling effort in Johnstown. This network includes those improvement projects which are committed over the next six years plus the projects which are included in the Fiscally Constrained list of the North Front Range 2035 Regional Transportation Plan. In the Johnstown planning area, the model includes the widening of US 34 to six lanes west of LCR 3, widening of SH 60 to four lanes west of CR 15, and the widening of SH 402 and sections of LCR 18 to four lanes. Widening of I-25 to six lanes is not included due to fiscal constraints.

### 3.1 *Land Use Forecasts*

The Johnstown Area Comprehensive Plan (2006) shows land uses anticipated in the Johnstown area (see **Figure 7**). The primary development pattern will continue to be low density, single family residential use. The I-25 and US 34 will see the most growth in commercial activity, given their visibility and accessibility to these high volume, regional facilities. Commercial activity will also grow in the downtown area. Employment uses (light industrial and manufacturing) will expand to the east of downtown on both sides of SH 60. Village centers with commercial activity are anticipated at major intersections, particularly along SH 60.

According to the 2000 U.S. Census, the population within the town limits of Johnstown was 3,827. The 2005 unofficial estimate of Johnstown's population shows an increase to 7,250, nearly double. It is anticipated that Johnstown will experience significant growth over the next 28 years and beyond. The 2006 JACP identifies a 2035 population in the Johnstown area of influence of slightly less than 50,000.

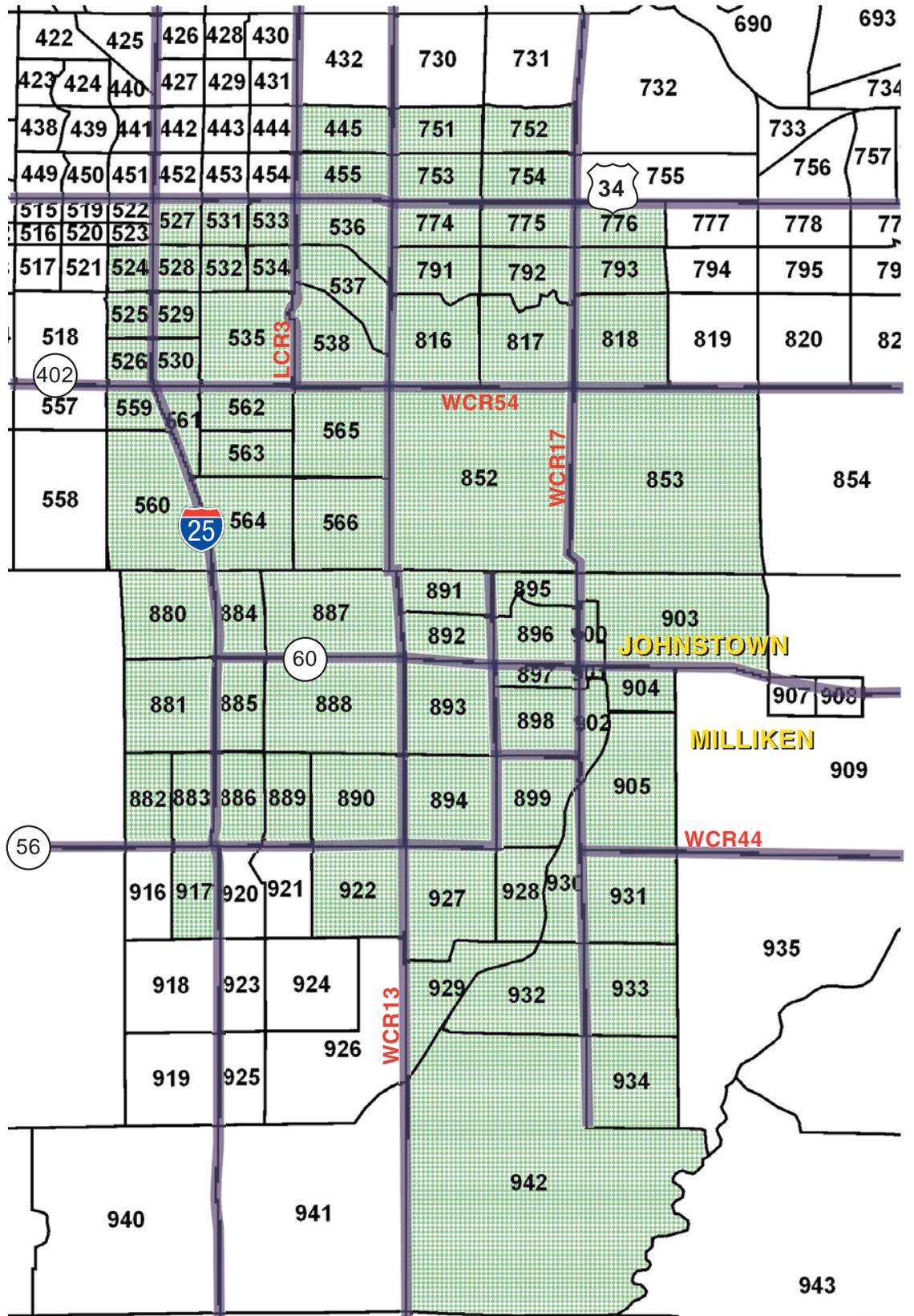
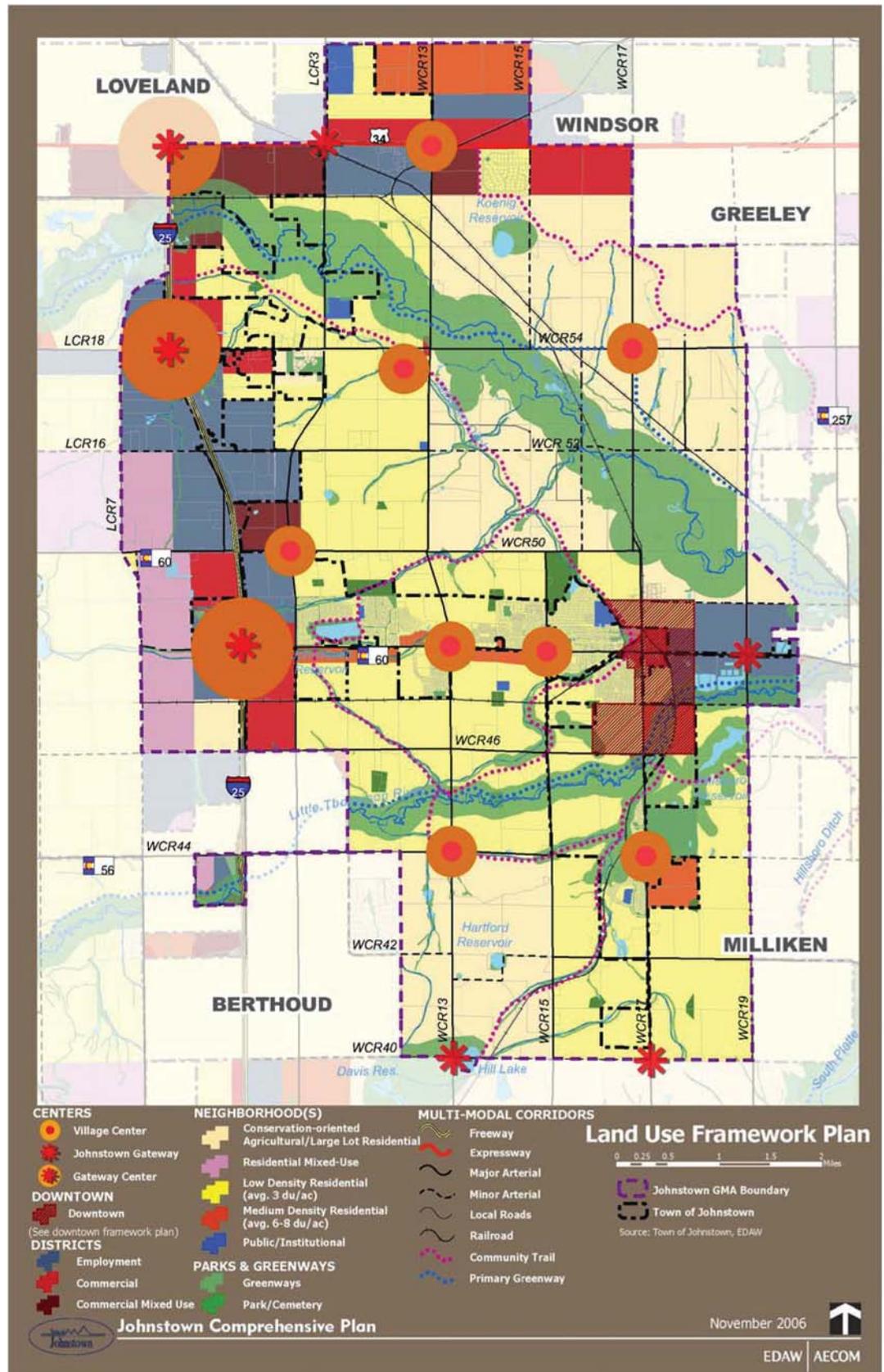


Figure 6  
Traffic Analysis Zones



North



Source: Johnstown Area Comprehensive Plan, 2006

Figure 7  
Land Use Framework Plan

## 2035 FORECASTS

NFR MPO forecasts of 2035 growth in the Johnstown planning area were reviewed in detail by the Town’s planner and adjustments were made in a number of TAZs. As shown in **Table 2**, the 2035 population for the Johnstown planning area is estimated to be approximately 48,500. This compares to approximately 9,000 residents in the same area in 2005. Employment is also forecasted to increase dramatically with an estimated 28,400 employees in the area. This compares to approximately 2,200 employees in the planning area in 2005. The computer model forecasts residential traffic based the number of households, and 19,700 are anticipated in 2035 – up from approximately 3,600 in 2005 in the same planning area.

**Table 2. Land Use Forecasts**

TAZ	2005 Households	2005 Population	2035 Households	2035 Population	2005 Employment	2035 Employment
445	7	16	400	941	13	13
455	2	5	300	706	0	300
524	3	8	136	347	13	13
525	2	5	113	288	0	0
526	2	5	2	5	0	100
527	2	5	2	5	11	719
528	4	9	4	9	14	14
529	2	5	456	1073	0	100
530	6	16	6	16	0	262
531	1	2	1	2	0	1210
532	1	2	544	1280	0	101
533	2	5	2	5	0	1186
534	4	9	400	941	0	88
535	22	57	880	2294	2	2
536	28	71	28	71	72	400
537	5	13	150	379	8	100
538	14	38	117	318	0	0
559	3	7	3	7	0	217
560	24	61	322	825	64	100
561	9	22	9	22	152	896
562	27	66	34	83	39	650
563	6	15	200	490	0	150
564	8	20	248	629	22	297
565	11	27	300	750	7	7
566	9	23	400	1025	0	0
751	0	0	200	470	0	0
752	37	98	37	98	2	2
753	1	2	1	2	0	100
754	6	16	6	16	8	1441

TAZ	2005 Households	2005 Population	2035 Households	2035 Population	2005 Employment	2035 Employment
774	90	213	90	213	5	100
775	0	0	0	0	0	100
776	1	3	1	3	0	3494
791	6	14	6	14	0	0
792	1	2	200	459	3	200
793	0	0	0	0	0	3470
816	10	25	10	25	4	4
817	7	17	7	17	10	10
818	3	7	3	7	0	0
852	36	83	36	83	13	13
853	211	527	245	612	95	95
880	12	31	14	36	651	1101
881	6	16	200	521	0	975
882	4	9	391	920	0	155
883	5	12	368	866	0	749
884	1	2	1	2	0	1479
885	2	5	2	5	0	1252
886	5	13	5	13	20	2206
887	502	1249	1275	3173	2	144
888	97	232	1200	2868	1	99
889	5	12	905	2129	0	0
890	16	39	16	39	0	0
891	5	12	5	12	0	0
892	476	1207	734	1861	38	315
893	9	22	1200	2986	4	150
894	7	16	1000	2352	0	0
895	2	5	2	5	0	0
896	699	1740	724	1803	296	301
897	407	1081	413	1097	187	209
898	28	83	723	2148	4	4
899	3	7	1429	3362	0	0
900	52	136	52	136	264	274
901	106	272	106	272	12	13
902	3	8	177	461	0	366
903	23	56	68	167	4	1277
904	0	0	0	0	16	100
905	20	47	697	1640	0	50
917	0	0	0	0	0	1073
922	128	325	128	325	88	88

TAZ	2005 Households	2005 Population	2035 Households	2035 Population	2005 Employment	2035 Employment
927	6	14	6	14	0	0
928	2	5	2	5	0	0
929	5	13	5	13	0	0
930	239	607	860	2184	3	3
931	6	14	435	1023	0	0
932	8	20	349	882	0	0
933	6	14	200	470	0	0
934	8	19	8	19	0	0
942	56	142	56	142	35	35
<b>TOTALS</b>	<b>3572</b>	<b>9004</b>	<b>19655</b>	<b>48481</b>	<b>2182</b>	<b>28372</b>

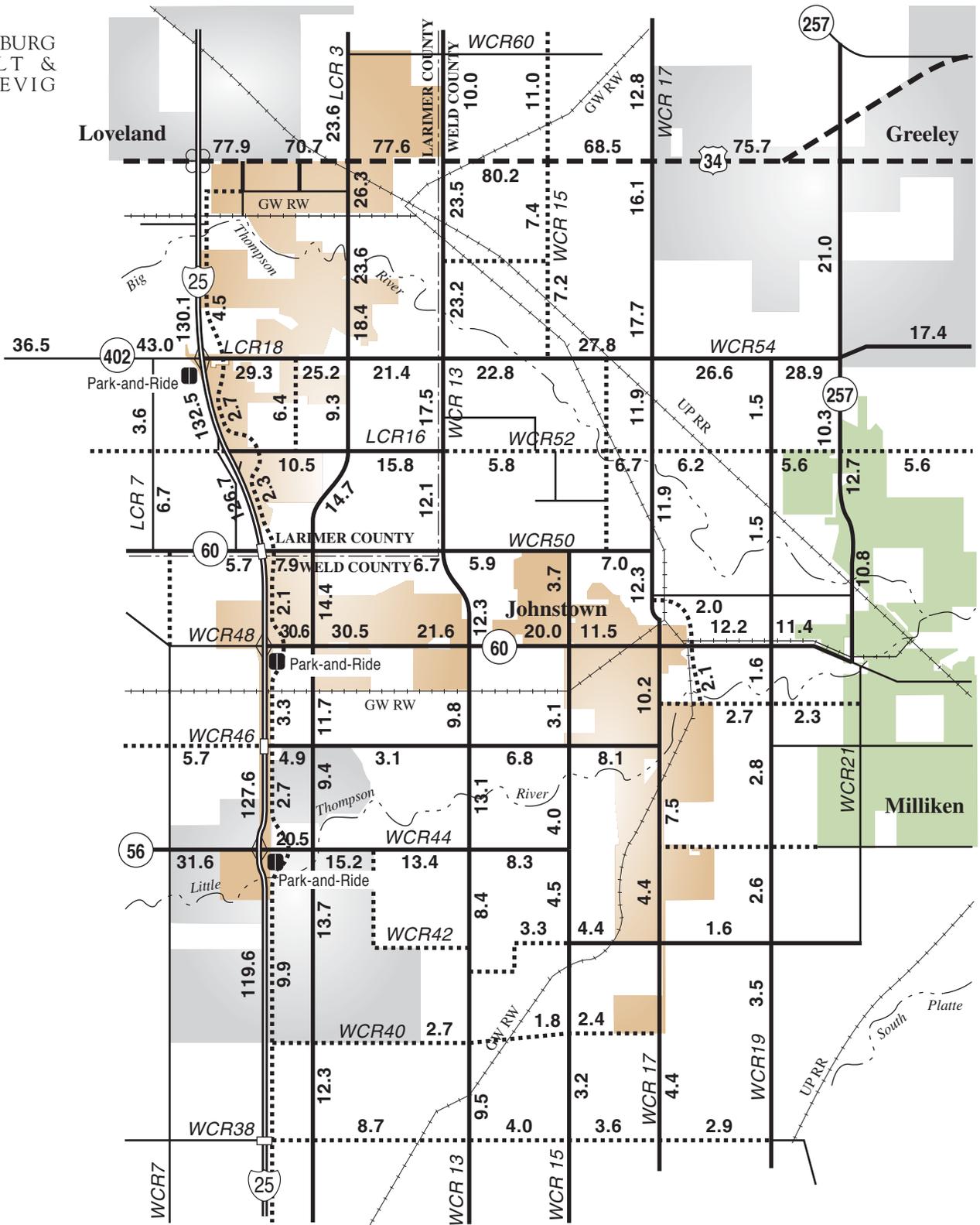
### 3.2 2035 Traffic Forecasts

Once the land use forecasts were developed for each of the TAZs in the Johnstown planning area, the NFR computer model was used to forecast 2035 traffic volumes. The 2035 traffic volumes generated by the land use forecasts described previously were first applied to the base roadway network. The base network includes the regional improvements associated with the NFR 2035 Fiscally Constrained Plan, as previously described. The existing roadway network was used for the remaining streets within the planning area; all section line roads were assumed to be paved.

The basic arterial roadway network presented in the 2002 JTP was included in the 2006 JACP. This also formed the basis for the 2035 NFR MPO regional network in the Johnstown area, and an initial assignment was made to this network. As described in the next section, this initial traffic forecast was reviewed in detail to determine where capacity deficiencies and other constraints might exist. The network was refined and a new traffic assignment was made. This analysis determined the specific functional classification of the roads, roadway laneages, and cross sections of the arterial roadways, as discussed in more detail in the next chapter. The resulting 2035 traffic forecasts on the recommended roadway network are shown on **Figure 8. Table 3** shows that traffic will grow significantly in the next 27 years.

**Table 3. Forecasted Growth in Traffic Volumes (Vehicles per Day)**

Roadway	1999 Volumes	2006 Volumes	2035 Forecasted Volumes
I-25 at SH 60	48,300	57,500	127,700
US 34 east of I-25	27,900	40,500	77,900
SH 60 east of I-25	4,500	11,000	30,600



**LEGEND**

-  = Freeway
-  = Expressway
-  = Major Arterial
-  = Minor Arterial



North

**Figure 8**  
2035 Traffic Forecasts on  
Recommended Network

### 3.3 Identification of Deficiencies, Constraints and Alternatives

#### ROADWAY NETWORK DEFICIENCIES

The purpose of modeling the future land use on the base network is to identify future deficiencies in the existing roadway network. **Table 4** provides design and maximum planning level capacities in vehicles per day (vpd) for various roadway types and laneages. The design standard capacities generally conform to level of service D, which is typically the design goal for urban areas. The maximum capacity corresponds to the breakpoint between level of service E and F where roadway failure and resulting congestion can be expected a significant amount of the time.

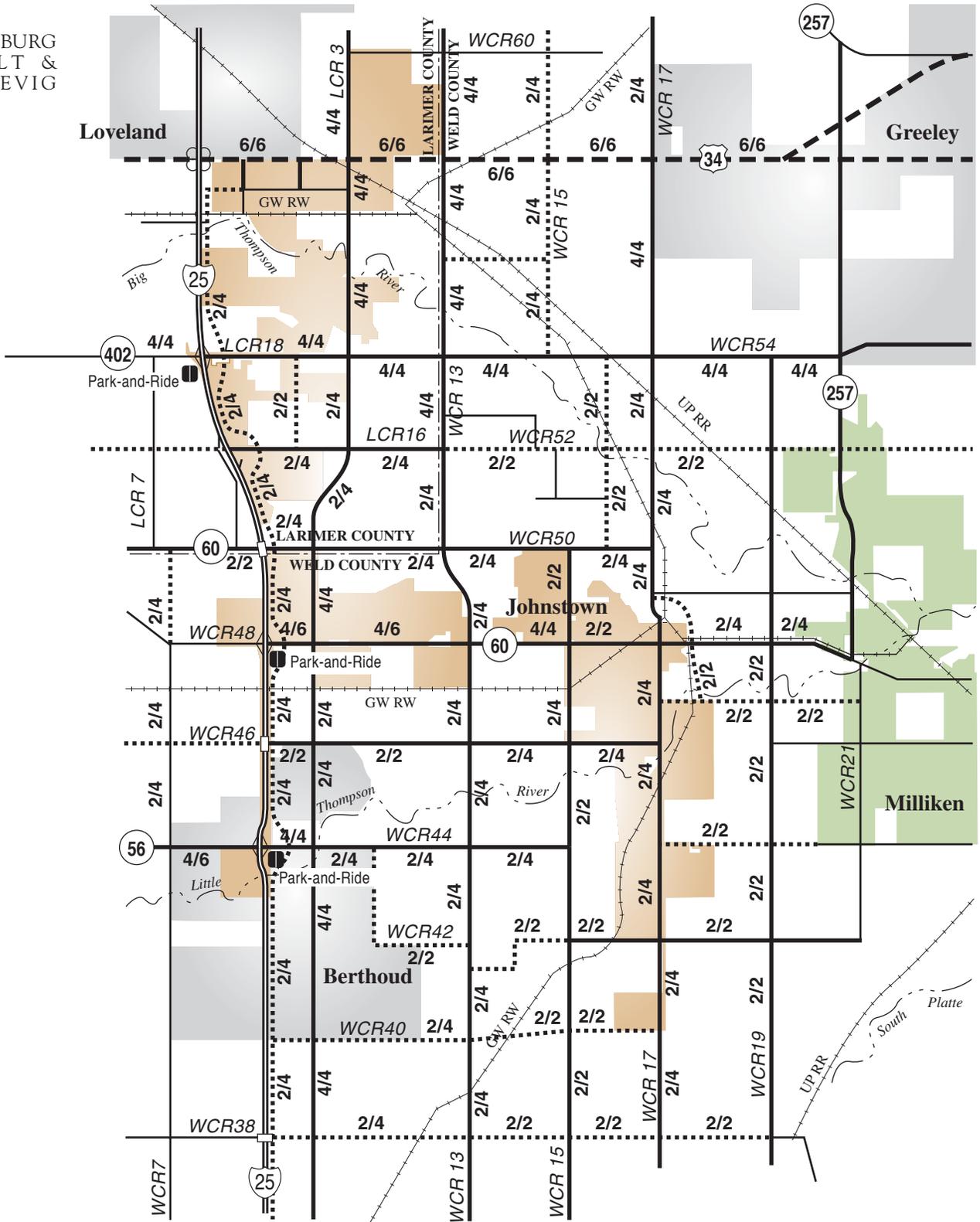
**Table 4. Planning Level Roadway Capacities**

Functional Classification	Number of Lanes	Design Standard	Maximum Capacity
Freeway	4-Lane	60,000 vpd	80,000 vpd
	6-Lane	95,000 vpd	120,000 vpd
Major Arterial	2-Lane	13,000 vpd	16,000 vpd
	4-Lane	26,000 vpd	32,000 vpd
	6-Lane	39,000 vpd	48,000 vpd
Minor Arterial	2-Lane	10,000 vpd	12,000 vpd
	4-Lane	20,000 vpd	24,000 vpd
Collector	2-Lane	8,000 vpd	10,000 vpd
	4-Lane	16,000 vpd	20,000 vpd

The recommended 2035 roadway laneages (see **Figure 9**) were developed by comparing the volumes shown in **Figure 8** with the general roadway capacities given in **Table 4**. In addition to the need to widen US 34, SH 402, and portions of SH 60 and LCR 18 that were identified in the basic NFR model, other roadways are expected to experience unacceptable congestion if not widened. Most importantly, I-25 was widened to six lanes between SH 66 and SH 14. The volumes and congestion experienced today will be intolerable in the future if it is not widened. Additional roadways that may need to be widened to four lanes by 2035 include:

- ▶ High Plains Boulevard between SH 60 and WCR 50/LCR 14
- ▶ High Plains Boulevard (LCR 13) between LCR 18 and LCR 24
- ▶ WCR 54 from WCR 13 to SH 257 (and east to Evans)
- ▶ Widening on nearby roadways under the jurisdiction of the Town of Berthoud that will be carrying Johnstown traffic include SH 56 (west from I-25) and WCR 44 (between I-25 and High Country Boulevard)

It is anticipated that most of the section line roads that are currently unpaved will be paved by 2035 as a result of adjacent development. Weld County has an active paving program, and Johnstown should continue to coordinate closely on these efforts. With regard to widening roads to four lanes, many roads may not need widening until significant development in the vicinity is realized, which may be beyond the 28 year horizon.



**LEGEND**

X/Y = 2035 Laneage / Build Out Laneage

**Figure 9**

**Future Roadway Laneage**



North

**Figure 9** also includes forecasts of the laneage that will be needed on Johnstown roadways at build out. These forecasts are based on past experience in Johnstown and engineering judgment. Most major arterials will need to be four lanes in the long term future, and it is possible that SH 60 may ultimately need to be 6 lanes wide west of WCR 13. All of these widenings are anticipated in the required street sections presented in the next chapter.

One of the main purposes of this update of the Johnstown Transportation Plan is to ensure that adequate public right-of-way is set aside as an element of the initial development of adjacent property. Sufficient right-of-way is then available in the future for widening roads while disturbance to adjacent property and buildings is minimized. This right-of-way can also be used for spot widening. For example, if a development were planned and a traffic impact analysis indicated that there was a need for a widened section with turn lanes, such a recommendation would take priority over the 2035 laneage recommendation for that particular section of roadway.

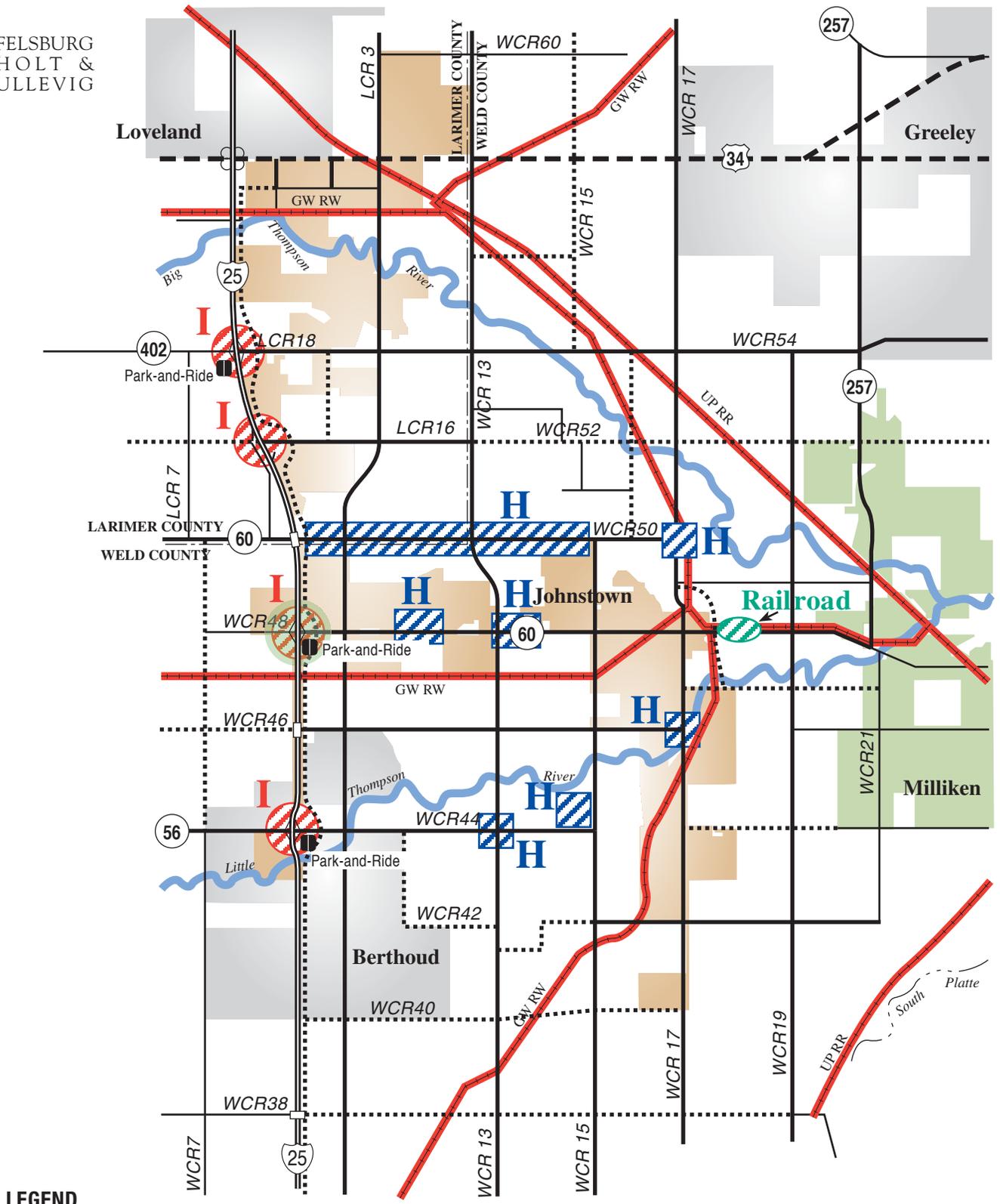
## POTENTIAL ROADWAY CONSTRAINTS

Based on the future volume and roadway laneage information shown in **Figures 8 and 9**, a field survey was conducted of the roads in Johnstown which may require substantial improvements in the future. It is apparent that existing development and topography could present constraints which will affect new roadway alignments and widening of existing roads. These locations are summarized on **Figure 10**. There are a number of farmhouses and related buildings which are located close to WCR 17, WCR 44, and WCR 50. However, future widening to four through lanes will probably require relocation or taking of these structures. There will be interim concerns regarding the necessary right-of-way which should be secured so that eventual widening can be accomplished with a minimum of additional disruption. In addition, there are homes located close to SH 60 which will require relocation or taking when this highway must be widened to four lanes.

## TRUCK ROUTES

The need for a truck route to minimize the number of trucks on arterials in the downtown area was raised numerous times by the community during the preparation of the JACP and the downtown plan. SH 60 is on the state highway system and under the jurisdiction of CDOT. As a result, trucks traveling east and west cannot be prohibited from using SH 60 through the community. However, Parish Avenue is under the jurisdiction of Johnstown, and truck use can be limited to local deliveries in the downtown area, once an alternative has been provided. Charlotte Street (east of Parish Avenue) and Angove Avenue (south of Charlotte Street) should be considered as an interim measure to route trucks around the primary retail area in downtown. The recently adopted Downtown Johnstown Improvement Master Plan calls for significant reconstruction of Parish Avenue north of SH 60 to provide a more pedestrian friendly environment and stimulate economic revitalization. Heavy truck traffic on Parish Avenue is incompatible with this plan.

Building a truck route east of downtown where most of Johnstown's industrial development is located will provide a long-term solution. Locating the truck route is complicated by the GWRR which has its main yard paralleling SH 60 on the north side. Determining the proper location east of downtown will be complicated. There are a number of yard tracks and switches as well as service to the Colorado Sweet Gold area on the south side of SH 60. A community ballfield is also located to the south of SH 60 in the vicinity. Close coordination will be necessary with GWRR to determine where a new roadway can be located so that interference with yard operations and the mechanical



**LEGEND**

- H** = Homes Close to Road
- I** = Interchange Geometry & Frontage Road
-  = Railroad
-  = Interchange
-  = Waterways
-  = Existing Development



North

**Figure 10**  
Potential Constraints

operation of the switches will be minimized. South of SH 60, the truck route could be built east of the ballfield. Its exact alignment will need to be coordinated with the affected property owners. A good opportunity might arise to combine this function with access to future redevelopment of the Colorado Sweet Gold property. Lining up the north and south halves of the truck route would be ideal, but may not be possible due to railroad crossing considerations. The northern portion of the truck route would tie to Parish Avenue south of WCR 48½ through open land. New crossings of the GWRR tracks may be subject the extensive approval process under the jurisdiction of the Public Utilities Commission (PUC).

## 4.0 LONG-RANGE TRANSPORTATION PLAN

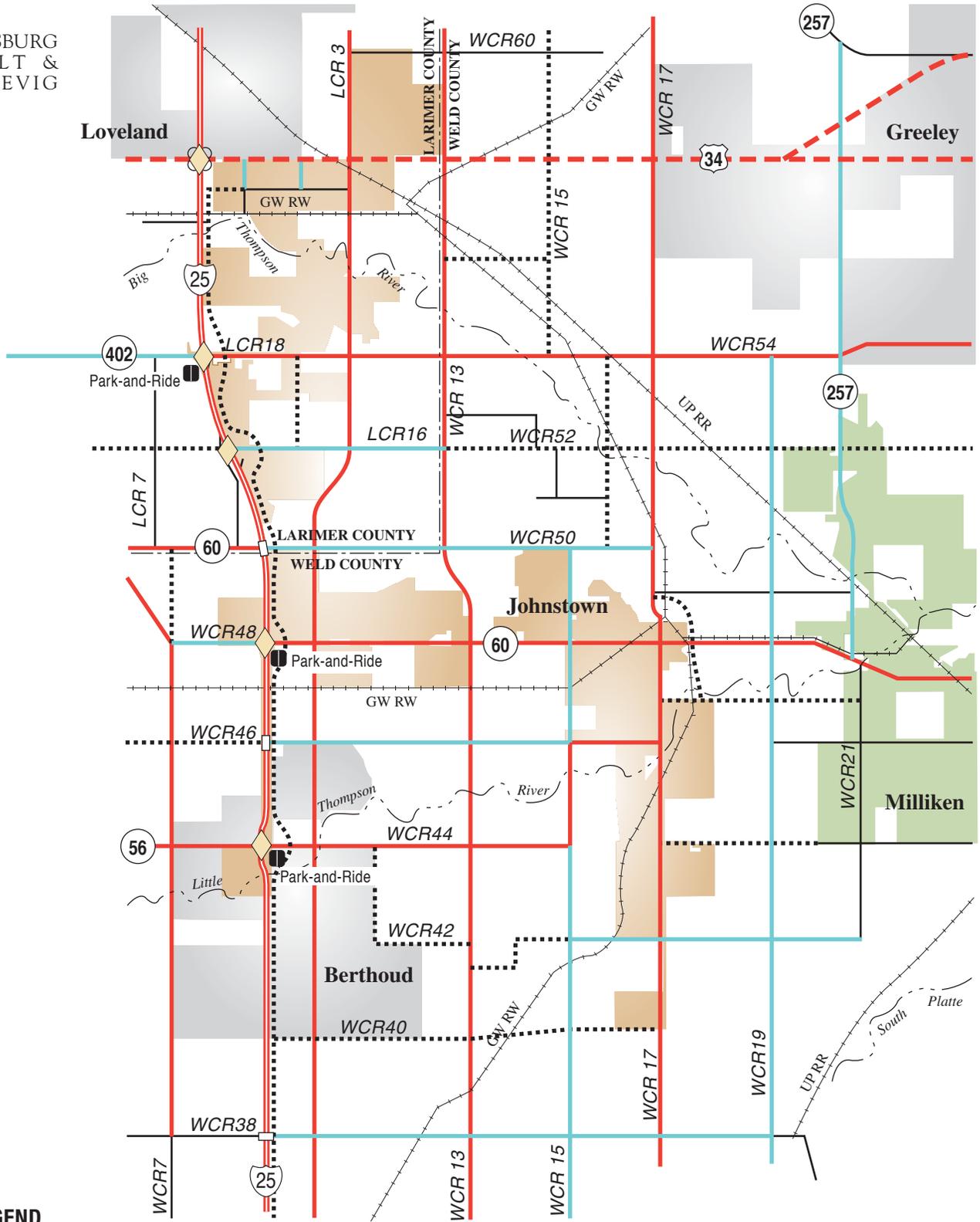
### 4.1 Roadway Plan

The character and viability of Johnstown will be dependent on the quality of the roadway system. Johnstown's Roadway Plan is shown on **Figure 11** and illustrates the classification of each road. These classifications are discussed in more detail in the next section. One major addition of this plan is to show the corridors that have been designated as regionally significant by the NFR MPO (see The North Front Range 2035 Regional Transportation Plan). These corridors are the only ones eligible to receive funding from state and federal sources. The Town has participated in the designation of these corridors, and they are in accord with the findings of this update. It should be noted that all of the interchanges along I-25 will be upgraded sometime in the future in accordance with the findings of the North I-25 EIS. Similarly, CDOT will be upgrading US 34 in accordance with the Corridor Optimization Study and Environmental Assessment. This will include widening to six lanes and ultimately grade-separated interchanges as funds become available.

Several of these corridors include new roads or the upgrading of existing roads. These have been previously included in the 2002 JTP, but they will significantly improve regional mobility for Johnstown residents. These include:

- ▶ **Southern Access to I-25** – Upgrading and paving WCR 46 (between WCR 15 and WCR 17) and WCR 44 (between WCR 13 and WCR 15) will improve the accessibility of the existing I-25 interchange at SH 56 (WCR 44) for residents in the south part of Johnstown. This will also provide some relief to SH 60 through town.
- ▶ **High Plains Boulevard** – This new arterial is generally one-half mile east of I-25 south of WCR 50. Its separation from I-25 increases north of WCR 50 as it shifts to the east to utilize the LCR 3/WCR 11 alignment to US 34 and farther north. The first segment has already been constructed north of SH 60 adjacent to the Rocksbury Ridge neighborhood.
- ▶ **West Parallel Arterial** – WCR 7 has been designated as the alignment for a continuous arterial west of I-25. Outside of the Johnstown planning area, it will deviate further to the west (LCR 9) to the north of WCR 50.
- ▶ Other regionally significant corridors include SH 60, WCR 13, WCR 17, and SH 402/LCR 18/WCR 54.

There are only minor changes from the roadway plans found in 2002 JTP and the 2006 JACP. The plan includes several new potential roadway alignments including the truck routes discussed in the previous chapter and the relocation of Parish Avenue (WCR 17) north of downtown. This concept was included in the Downtown Johnstown Improvement Master Plan and would involve shifting Parish Avenue west approximately 400 feet north of N. 2<sup>nd</sup> Avenue to WCR 50. This would replace the current jog on WCR 15 at WCR 50. This shift would allow the future extension of the downtown commercial activity to the north along both sides of Parish Avenue. Currently, Parish realignment would be achieved as a byproduct of the future development of this property which is currently being farmed. Finally, the I-25 Frontage Road has been downgraded to a minor arterial in recognition that CDOT will turn over jurisdiction to Johnstown at such time as four through lanes are required by adjacent development.



**LEGEND**

-  = Freeway
-  = Expressway
-  = Regionally Significant Corridor - Major Arterial
-  = Major Arterial
-  = Minor Arterial
-  = Interchange



North

**Figure 11**  
Roadway Plan

A companion to the Roadway Plan is **Figure 12** which shows the location of intersections that will likely require signalization in the future.

## 4.2 *Functional Classification*

Within a roadway system, each road is classified by the relative functional levels of mobility and access assigned to it. The primary function of a roadway is to provide either a high level of mobility (where higher speeds occur and direct land access is restricted) or to provide a high level of accessibility (where speeds are lower and direct land access is emphasized). These two functions, mobility and access, are in conflict; the more access is allowed by a facility, the greater its capacity for mobility is reduced. Freeway, expressways and arterials have the highest levels of mobility but have the greatest restrictions on access. Collectors and local streets serve greater access needs but have reduced capacity for traffic movement. It should be noted that the primary determinants of functional classification are length of trip, average travel speed, frequency of access points, and continuity. Traffic volumes, while often higher on mobility facilities, do not by themselves determine roadway function. It is possible, and frequently the case, that more accessible roadways carry relatively high traffic volumes (e.g. access to major office parks, regional shopping centers, etc.) and require multiple traffic lanes to accommodate the demand. By the same token, a mobility facility, serving relatively long trips at higher speeds between low density land uses may require only two traffic lanes to accommodate the demand.

To further clarify the distinction between the mobility and the accessibility function, the following descriptions of roadway types and **Table 5** present general characteristics for various types of roadway functions:

- ▶ **Freeways** - Freeways have the highest level of access control. Access is allowed only at grade separated interchanges; no at-grade intersections are allowed. Interchanges are typically at one mile or greater spacing. Freeways allow the highest level of mobility, providing unimpeded, high speed, high volume regional and interstate connections.
- ▶ **Expressways** - Expressways have limited access, typically via at-grade intersections at one mile spacing. They are typically unsignalized but can be signalized or made into interchanges where high volumes on the crossroad require. Expressways provide high speed, unimpeded regional connections.
- ▶ **Major Arterials** - Major arterials should be limited access, typically via signalized or unsignalized, at-grade intersections at one half to one mile spacing. Major arterials provide relatively high speed, unimpeded, town-wide connections. There may be direct access where they pass by existing homes, but future development should provide internal street systems and limit or prohibit individual direct access to the arterial.
- ▶ **Minor Arterials** - Minor arterials also have limited access, but may provide direct access to properties if no other reasonable form of access exists. Intersections are at-grade and may be signalized. Minor arterials provide relatively unimpeded connections within the community and distribute traffic to higher classification roadways.



- ▶ **Collectors** - Collectors may provide direct access to abutting properties, but this is not encouraged in residential areas. Intersections are at-grade and typically have some form of traffic control (stop signs). They provide connections between local streets and arterials and usually retain continuity through neighborhoods. Collector streets are typically identified through development plans and thus are not specifically identified in the Roadway Plan.
- ▶ **Local Streets** - Local streets serve the highest level of access, providing direct driveway access to adjacent properties and carrying traffic to the collectors. Local streets can be of limited continuity and may be designed to discourage through traffic.

**Table 5. Functional Classification Criteria and Design Characteristics**

Characteristics	Functional Priority			
	Freeways and Expressways <i>(Mobility Only)</i>	Arterials <i>(Mobility Primary, Accessibility Secondary)</i>	Collectors <i>(Accessibility Primary, Mobility Secondary)</i>	Locals <i>(Accessibility Only)</i>
Service Performed	Traffic movement, highest speed, no direct land use	Traffic movement, relatively high speed, minimal land access	More frequent land access, relatively low speeds	Direct land access, lowest speeds
Typical Trip Lengths	Interstate and between major regions of metro area	Within major regions of metro area and between communities	Within communities	Within neighborhoods and business centers
Continuity	Totally interconnected and continuous over an entire metro area	Interconnected and continuous within major regions of metro area	Interconnected and continuous within communities	No continuity required
Access Type and Spacing	Interchanges at 1 to 1 ½ mile spacing and at-grade signalized intersections at ½ to 1 mile spacing. No private access	At-grade signalized intersections at ½ mile spacing (¼ on minor arterials). Private access usually restricted	Signalized and stop controlled intersections at 1/8 mile spacing. Some restrictions on private access	Stop sign controlled or uncontrolled intersections. Unrestricted private access.
Facility Spacing Urban Rural	1 to 3 Miles 5+ Miles	1 Mile 1 to 2 Miles	¼ to ½ Mile 1+ Mile	As needed As needed
% System Mileage	5-10%	5-20%	5-10%	65-80%
% Vehicle Miles of Travel Carried	40-55%	20-35%	5-10%	15-30%

The Roadway Plan shown in **Figure 11** includes I-25 as the only freeway in the Johnstown area. There is also only one expressway - US 34. US 34 (as well as the other state highways) is controlled by CDOT, and any future development along it which requires access will be governed by the State Highway Access Code. There are a number of major arterials within the planning area. Several roads have been designated as minor arterials.

The location of collector roads has not been shown on the Roadway Plan. Because these roads primarily serve traffic internal to future development, their alignments will be located as development plans for specific areas are initiated. These roads will be necessary to provide connections to the arterial road system from residential neighborhoods and business developments. Their purpose is not to provide long-distance connections which would be enticing to cut-through traffic. They will generally have curvilinear alignments to minimize longer-distance through traffic which should more properly be using arterials. The intent in locating collector roads will be to line them up on each side of an arterial to minimize the proliferation of T-intersections and the potential number of signalized intersections.

## STREET STANDARDS

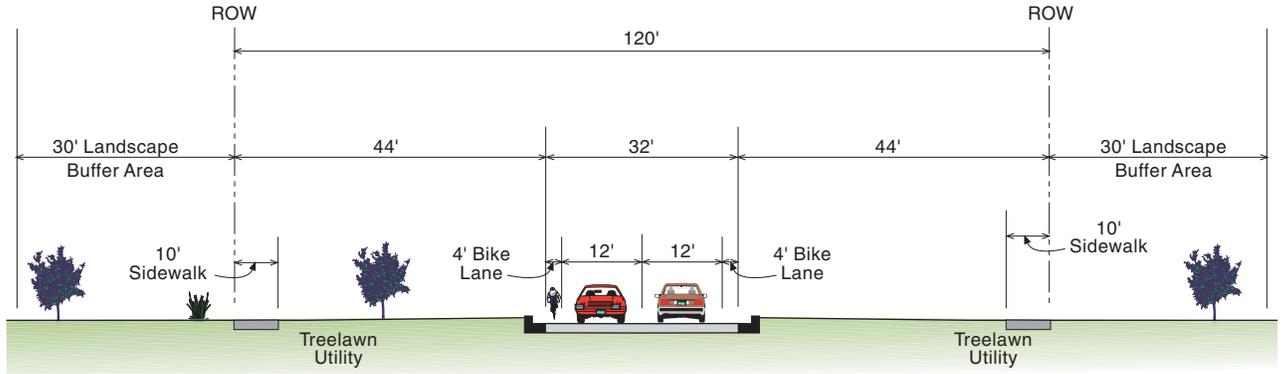
As part of the development of the Transportation Plan, standards for arterial, collector, and local streets have been developed. The Town has incorporated roadway standards into the Johnstown Design Criteria and Construction Regulations, 2004. This Transportation Master Plan includes no changes to the recommended cross sections of the two types of arterial roads (major and minor). Two collector standards have been added to bring the total to four with more flexibility for both business and residential uses. There are three local streets (business, residential, and rural). Separate cross sections for SH 60 have been developed in the SH 60 EOS and are shown in **Figure 13**.

The two arterial standards differentiate roads by the forecasted traffic they will handle at build-out and thus the number of potential lanes that may need to be accommodated within the right-of-way in the future. They also recognize the character and intensity of existing and planned development adjacent to the roadway.

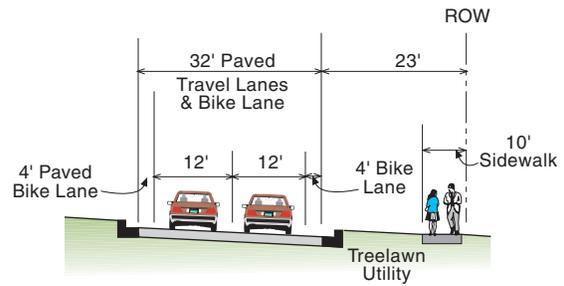
Major arterials will ultimately need to be four lanes wide but can initially be constructed as two lanes. The recommended roadway sections for major arterials shown in **Figure 14** illustrate a progression of phased expansion as traffic increases in the future. The ultimate section includes curb and gutter as well as a raised median to provide a separation between opposite flows of traffic, in the interest of safety. Wide sidewalks (10 feet) as well as on-street bike lanes (4 feet) are included in each direction. Initially, there would be one lane in each direction with paved shoulders (8 feet wide) provided for safety, breakdowns, agricultural equipment, and bicyclists. Ultimate widening to four lanes would follow development of the Johnstown area from largely rural to small town/urban and will mean that the street is carrying higher volumes of traffic. A right-of-way width of 120 feet is recommended so that there will be adequate room on the outside of the roadway for utilities, sidewalks, and right turn lanes at major intersections. An additional easement of 30 feet is provided on each side for landscaping and utilities. This also provides a buffer so that buildings are not displaced if further widening is required. A six-lane arterial could involve dual left-turn lanes and right-turn lanes at major intersections.

Minor arterials will for the most part remain as two lane roads, but there is adequate right-of-way (110 feet) so the road could be widened to four lanes in the future if necessary (see **Figure 15**). These roads are currently county roads which will need to be upgraded. Some are already paved and will need overlays on the travel lanes and shoulder improvements. Other county roads are currently unpaved and will need to be completely upgraded. These roads also would have curb and gutter, sidewalk, on-street bike lanes, but no raised median.





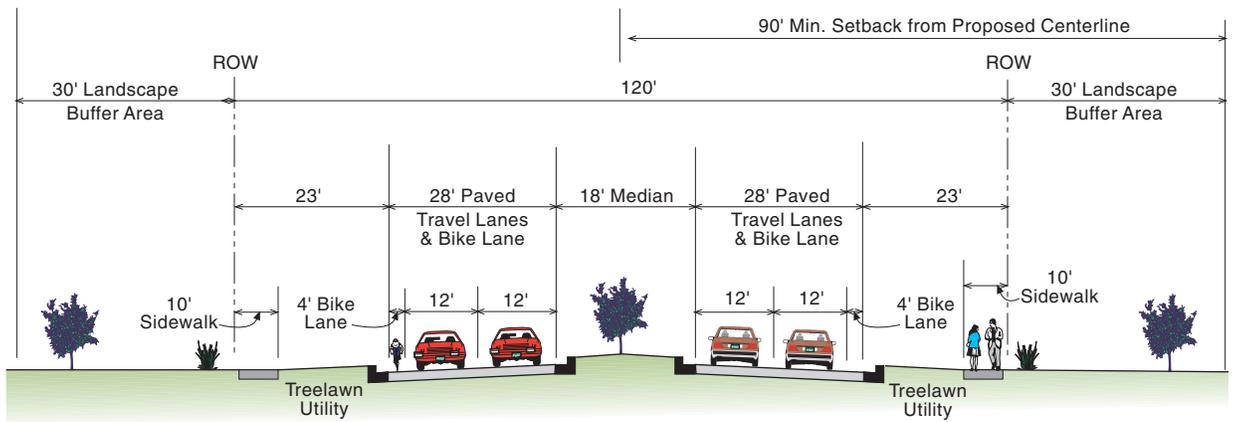
**Initial Phase**



**Alternative**

**NOTES:**

1. Left and right turn lanes at intersections and accesses as necessary
2. On-street bike lanes
3. Utilities should be located under the road or sidewalk, where possible



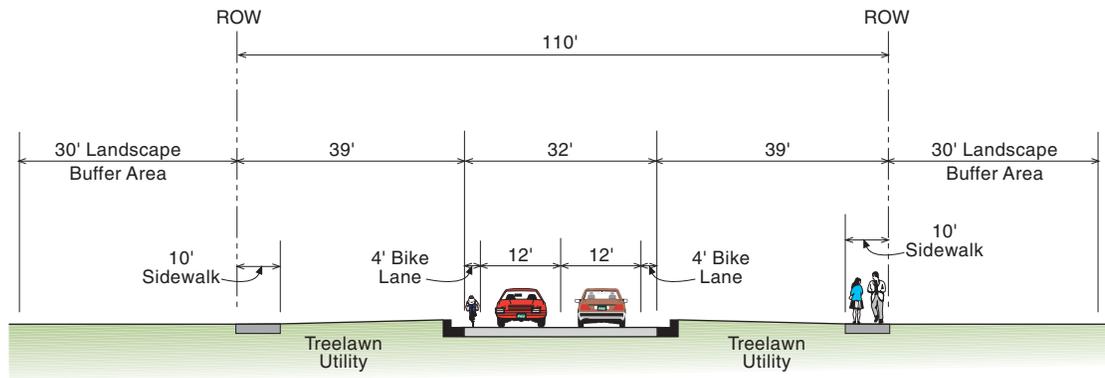
**Ultimate Phase**

**Figure 14**

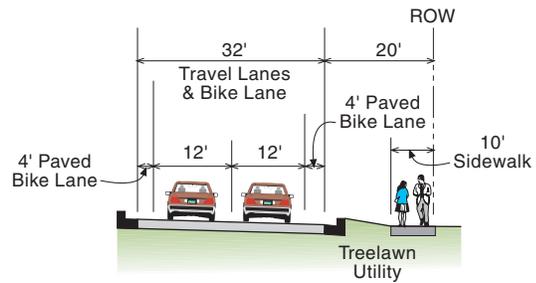
**Major Arterial  
Typical Cross Sections**



**NOT TO SCALE : GRAPHICAL REPRESENTATION ONLY**



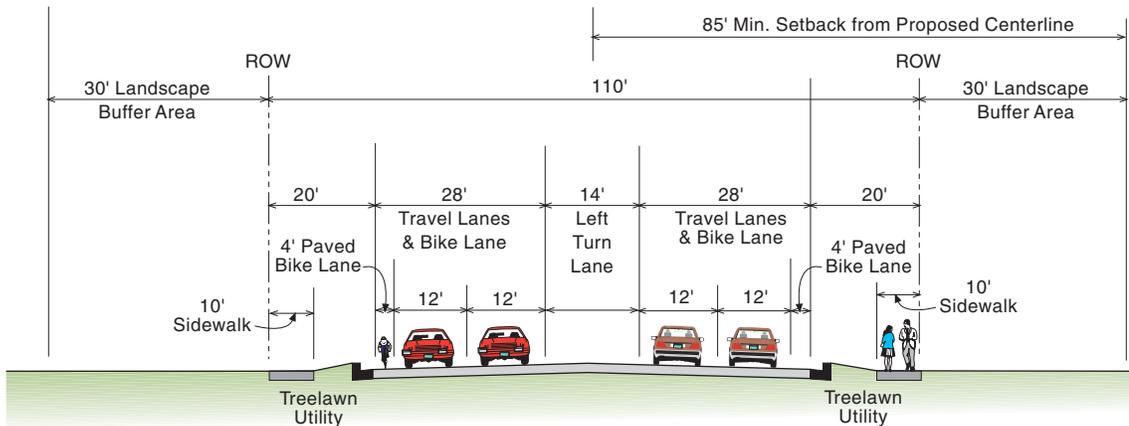
**Initial Phase**



**Alternative**

**NOTES:**

1. Left and right turn lanes at intersections and accesses as necessary
2. On-street bike lanes
3. With on-street parking, add 5' to each side of roadway
4. Utilities should be located under the road or sidewalk, where possible



**Ultimate Phase**

**Figure 15**  
**Minor Arterial**  
**Typical Cross Sections**



**NOT TO SCALE : GRAPHICAL REPRESENTATION ONLY**

Four cross sections have been proposed for collector streets, as shown in **Figures 16 and 17**. Major collectors would serve higher levels of either business or residential activity and also accommodate higher levels of access to adjacent property. **Figure 16** illustrates a collector section with a raised median. The roadway would provide 20 feet between curbs so emergency vehicles can pass other traffic. A narrower collector without on-street parking is also illustrated. Its use would primarily be in commercial areas with limited applicability in residential area. A three-lane section is shown in **Figure 17**. There would be a two-way left-turn lane in the median so vehicles accessing businesses don't interfere with through traffic. There is no provision for on-street parking as it should be provided on-site. In residential areas, there would be no homes fronting onto the streets and thus no direct property access. These three collector streets would typically be planned to carry up to 3,000 vpd in a residential area and up to 5,000 vpd in a commercial area. It should be noted that the maximum traffic carrying capacity for this type of street would be 8,000 to 10,000 vpd. Where volumes higher than these are anticipated, arterial streets would be more appropriate.

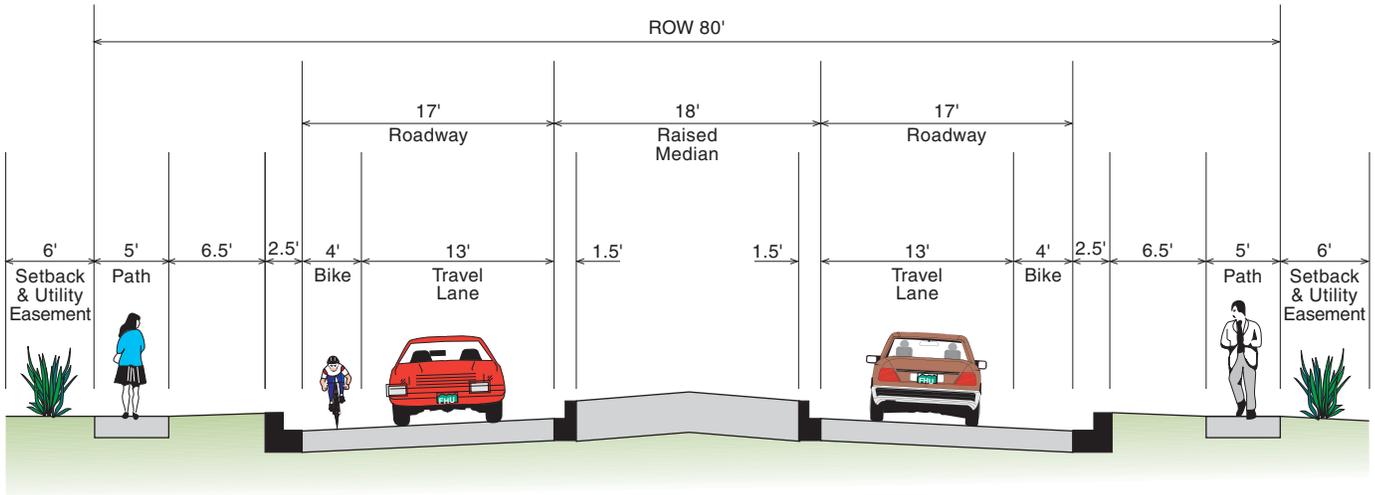
**Figure 17** also includes a collector standard intended for larger neighborhoods as it is slightly wider than the local street standard. Allowing homes to front directly on these collectors should be discouraged to reduce the potential for complaints about traffic and noise. It is much preferable that homes face a local street and have a side yard along the collector. This type of street would be planned to carry as many as 1,500 to 2,000 vpd.

The goal for local streets in residential areas in Johnstown is that these neighborhood streets should be safe for children, comfortable for bicycling, and pleasant to walk along. Street widths are as narrow as possible, while providing for legitimate safety and emergency vehicle considerations. Proposed typical cross sections for these streets are shown in **Figure 18**. The cross section would have 32 feet of pavement (not including curb and gutters). This section is appropriate for volumes up to 800 to 1,000 vpd. More rural residential developments where curb and gutter may not be appropriate could have a 24 feet wide section, but all parking would need to be in driveways. Finally, **Figure 19** illustrates a local street standard for commercial and business areas. No on-street parking would be allowed.

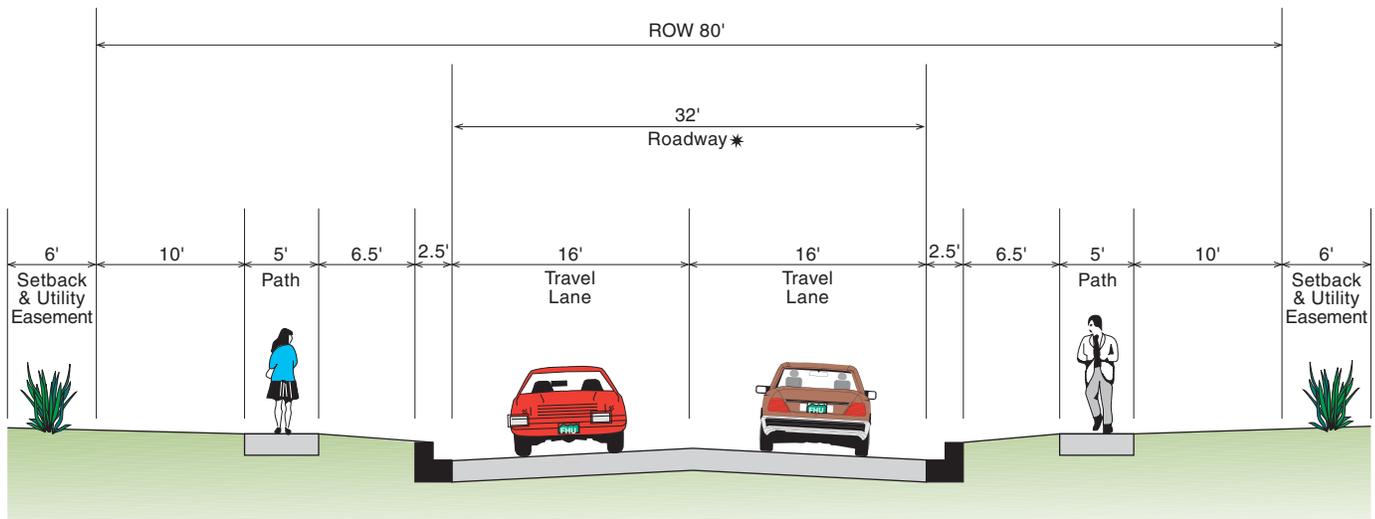
### **4.3** *Alternative Transit Plan*

The Johnstown, Milliken, & Windsor Short-Range Transit Plan, 2006 developed a transit plan that would connect Johnstown to Milliken and Windsor and to each of the near by larger cities of Greeley, Fort Collins and Loveland. The plan (see **Figure 20**) was developed through evaluation of the existing land use, travel patterns and input from citizens.

Three of the five routes identified in the preferred alternative would be provide service to the Johnstown area. The first route would travel from Milliken to Johnstown, then to Windsor and finally into Fort Collins. This route would be made three times per week. The second route would originate in Johnstown, then serve Milliken and travel into Greeley. This route would be made once a week. The third route would originate in Milliken and travel to Johnstown and into Loveland. It would also operate once per week. In addition, demand responsive call-and-ride service would be operated four hours a day for two days per week.



**Collector with Raised Median**



**Collector without Parking or Median**

\* Turn Lanes will be Required as Determined by a Traffic Study

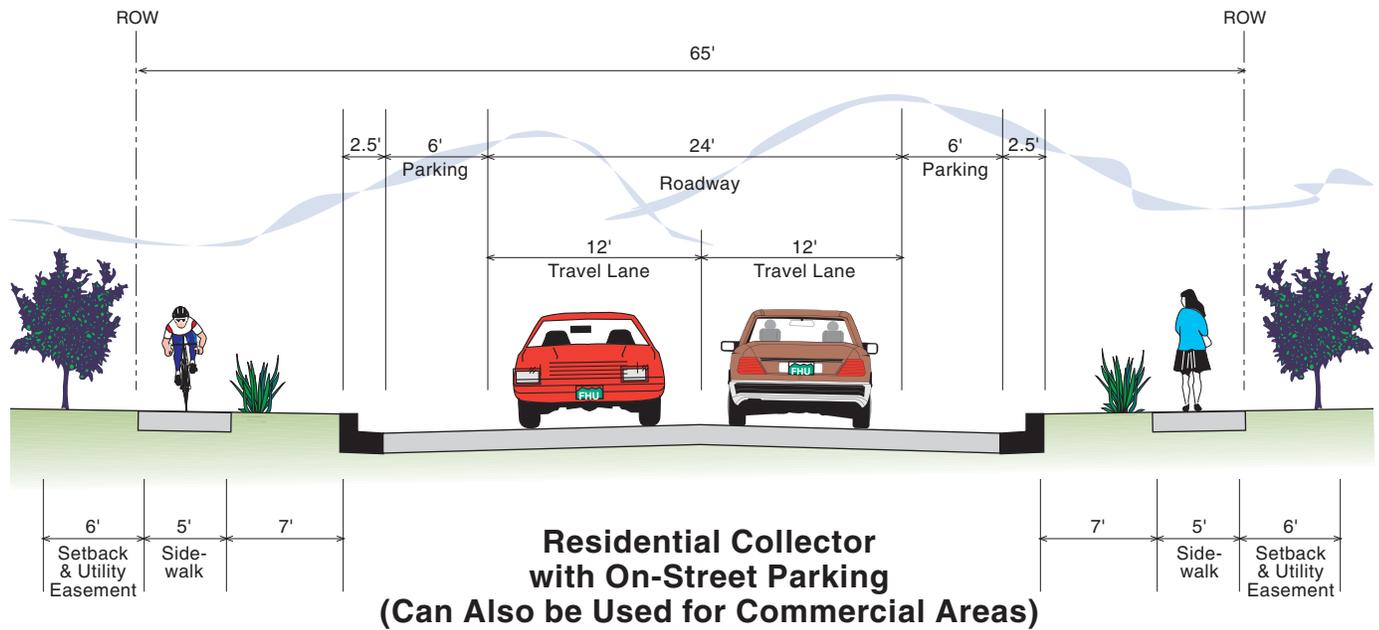
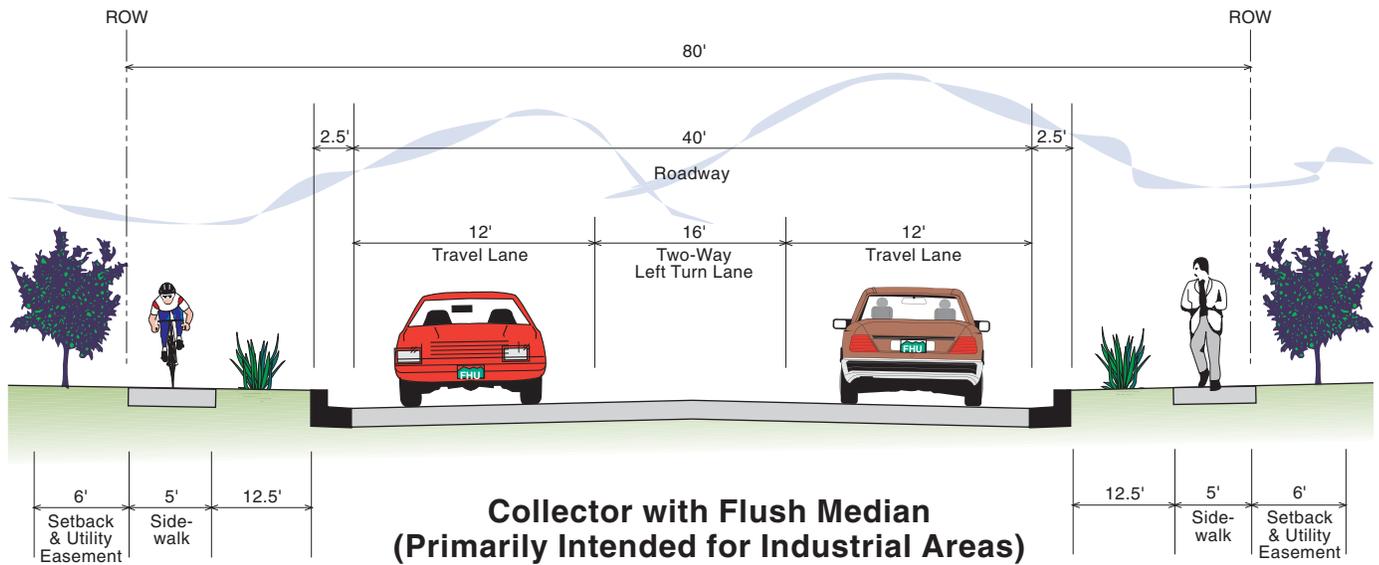
**Figure 16**

**Collectors Typical Cross Sections**



**NOT TO SCALE : GRAPHICAL REPRESENTATION ONLY**

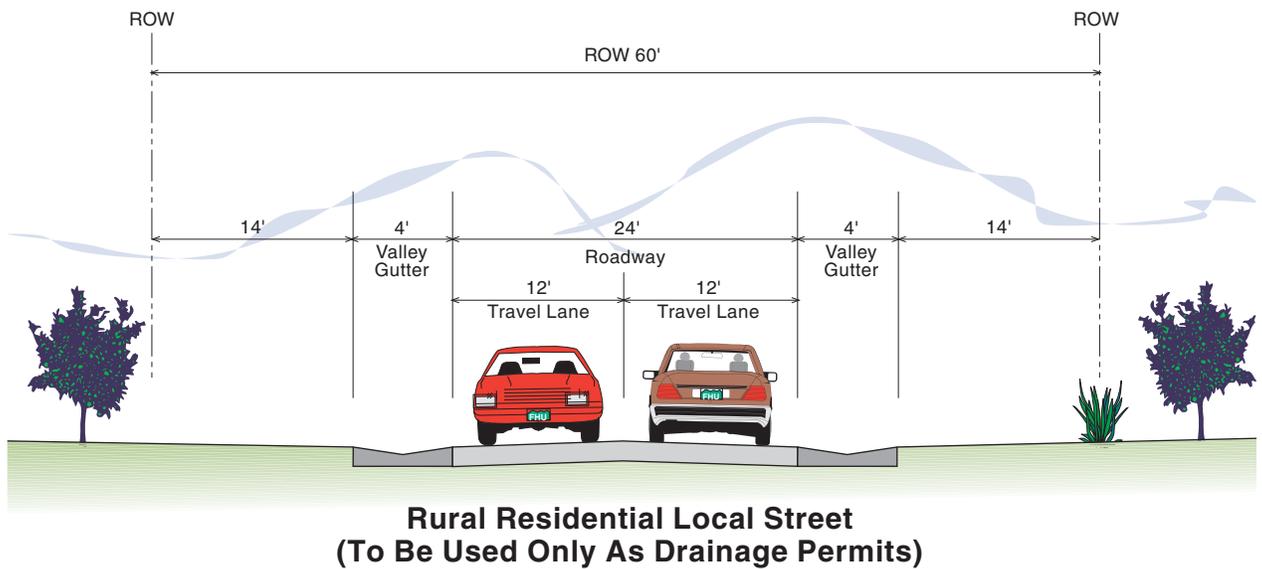
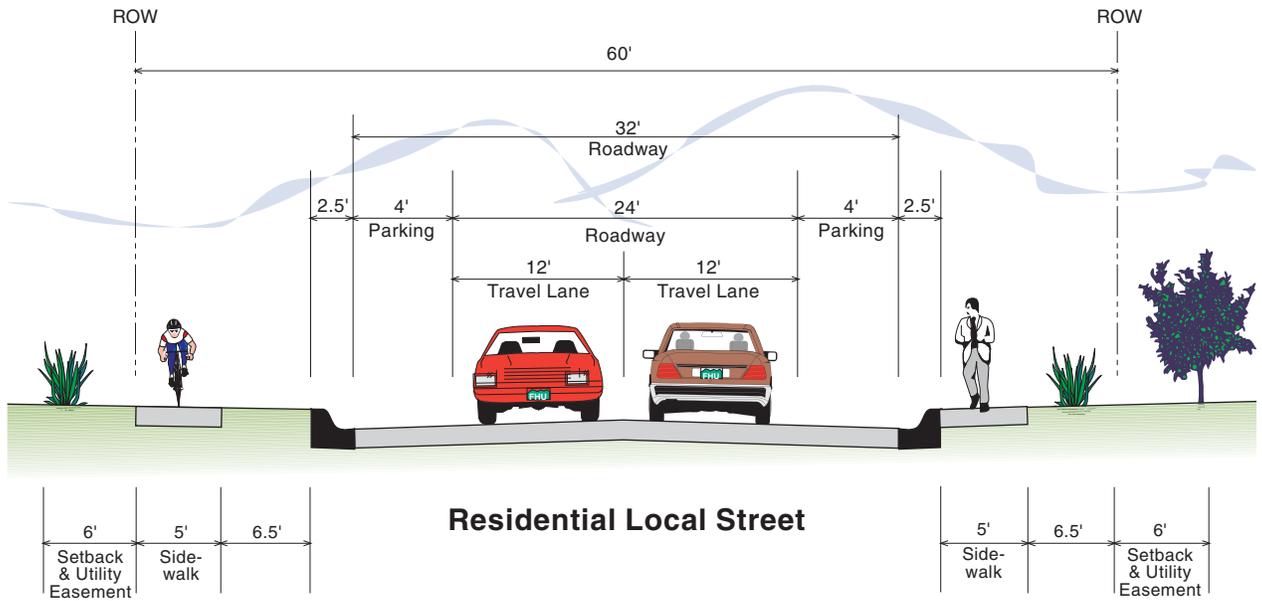
North



**Figure 17**  
Collectors  
Typical Cross Sections



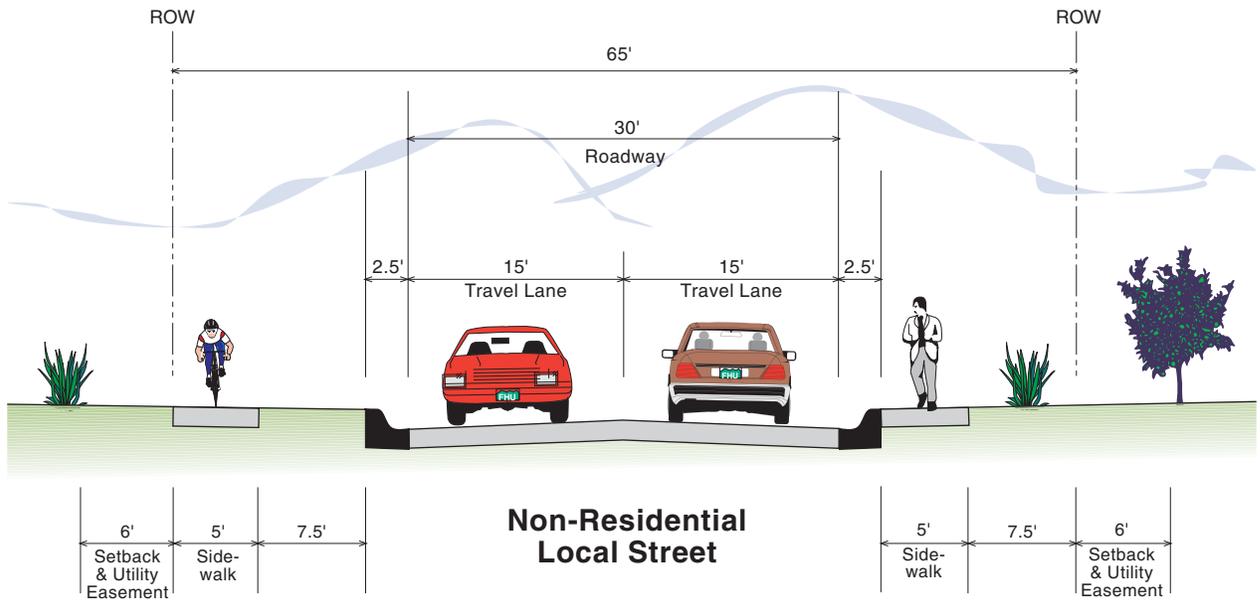
**NOT TO SCALE : GRAPHICAL REPRESENTATION ONLY**



**Figure 18**  
Local Streets  
Typical Cross Sections



**NOT TO SCALE : GRAPHICAL REPRESENTATION ONLY**

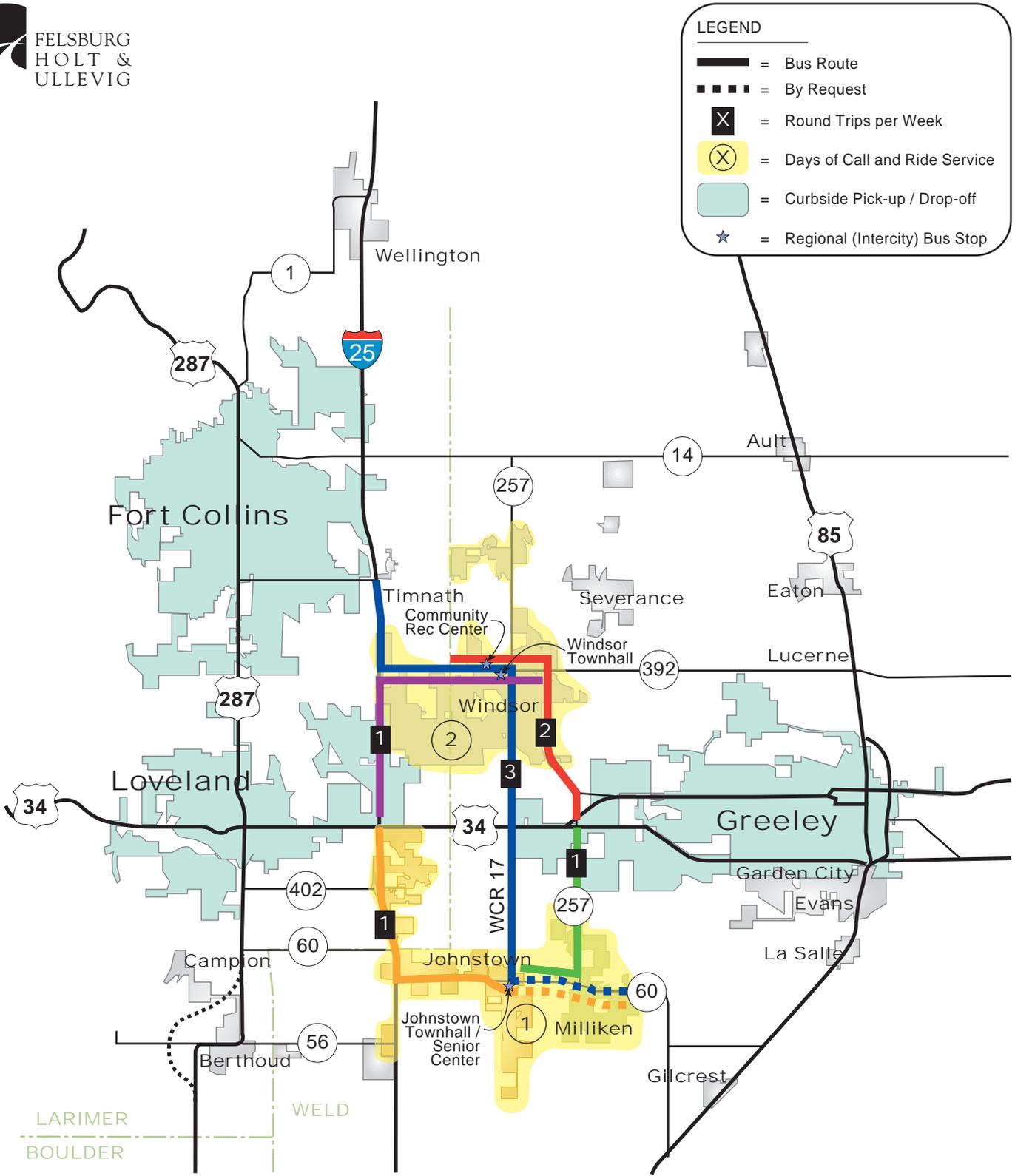


**Figure 19**  
Local Streets  
Typical Cross Sections



NOT TO SCALE : GRAPHICAL REPRESENTATION ONLY

North



**Figure 20**  
Johnstown, Milliken, and Windsor  
Short-Range Transit Plan



Patrons would be picked up at the Johnstown Town Hall/Senior Center. Patrons would arrive to this designated pick up location via the proposed in-town call-and-ride service or be dropped off. Passengers would have curb side service to their destinations within the city limits of Fort Collins, Loveland or Greeley. While the service would be open to everyone, it would primarily serve the transit dependent and elderly populations. The plan recommended that this service be operated through the existing Weld County Transportation program and be funded through rural transit grants administered by CDOT and by each of the three towns served.

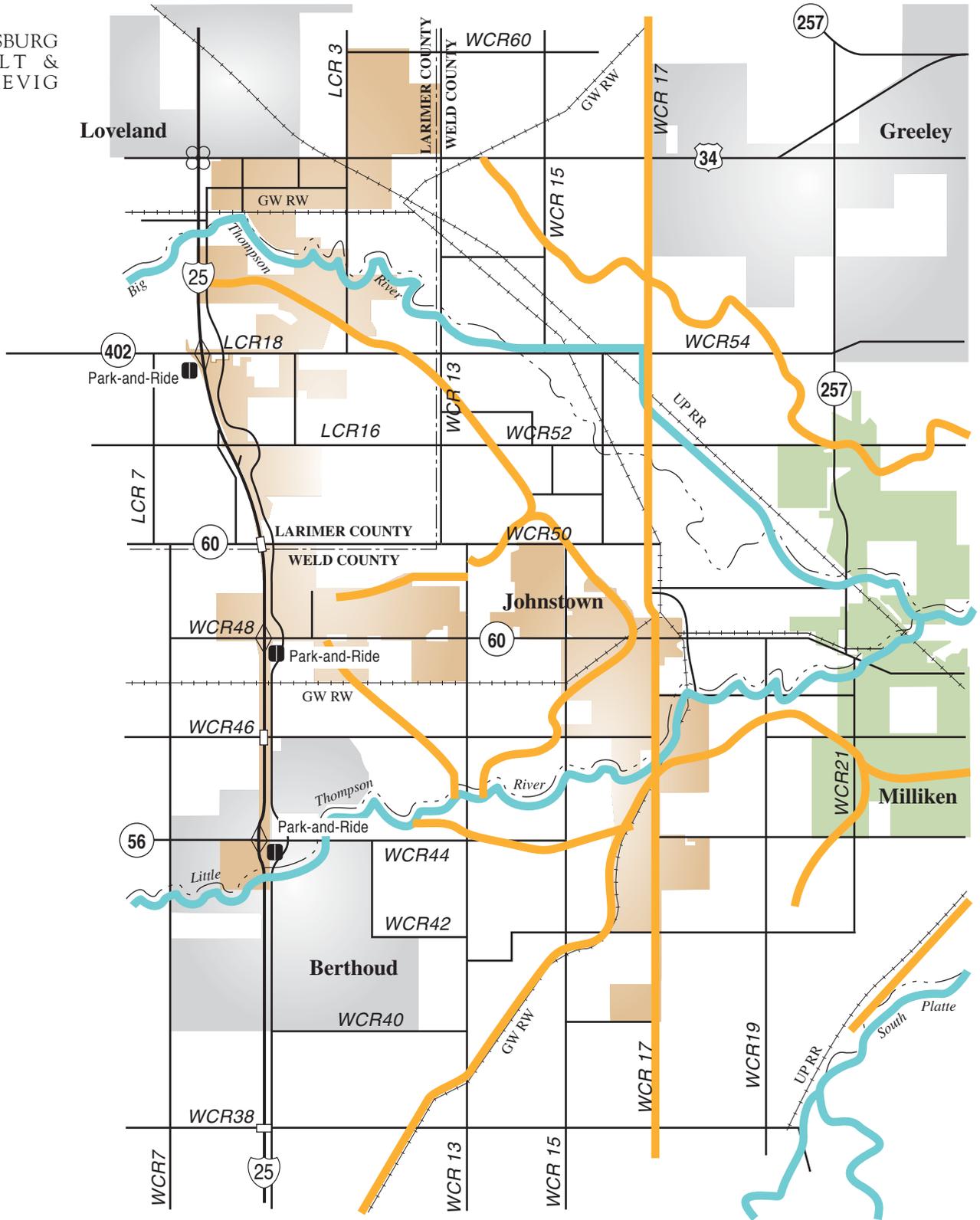
The North I-25 Environmental Impact Study is currently evaluating two transportation improvement packages that, if built, could also provide transit service to Johnstown residents. The first is called Package A. Transit improvements included in this package are feeder bus service along SH 60 and SH 56 that would connect Johnstown to a north/south commuter rail service that would parallel US 287. The package also includes commuter bus service along US 85 that Johnstown residents could access in Platteville. The second improvement package is Package B. Package B includes Bus Rapid Transit service along I-25 that residents could access near the I-25/SH 60 interchange. This service would connect residents to Fort Collins, downtown Denver and/or DIA. Package B does not include feeder bus service along SH 60, but Johnstown could consider providing this service in the future.

#### *4.4 Trails and Bicycle Paths*

The Johnstown/Milliken Parks, Trails, Recreation and Open Space Master Plan was adopted by the communities and the Thompson Rivers Parks and Recreation District in 2003. This master plan identifies general locations of existing and future parks, trails, and open space so that there is a unified system that is integrated into the development of the communities. The plan enables developers to incorporate new parks and trails into the design of their projects and also provides standards for these amenities. **Figure 21** illustrates the comprehensive trail system that will connect Johnstown and Milliken with other North Front Range communities so that residents (especially school children) can safely travel to schools, parks, commercial areas, and other neighborhoods. It should be remembered that on-street bicycle lanes and 10-foot wide sidewalks are provided on each side of all arterials in Johnstown (see **Figure 11**). These on- and off-street facilities will provide a comprehensive systems that can be used by bicyclists and pedestrians to access destinations throughout the community.

#### *4.5 Access Control Policies*

In order to preserve the functional integrity, safety, and capacity of roadways in Johnstown, it is necessary to establish general access control policy guidelines as part of the Transportation Master Plan. As previously mentioned, each classification of roadway represents a compromise between the level of mobility (use by through traffic) and access. Access management minimizes interruptions to traffic flow on major roadways while providing appropriate levels of access for adjacent existing and future development. A proliferation of driveways and residential street intersections decreases the speed and capacity of major roadways while increasing hazards to motorists. The purpose of these policy guidelines is to encourage, to the maximum extent possible, the provision of direct access to the roadways with lower functional classifications and to a limited degree, the minor arterial network. For freeways and arterials, the priority function is mobility, which means that the access to these roads (either interchanges or at-grade signalized intersections) should be limited.



**LEGEND**

- = River Corridor Trails
- = Neighborhood Trails

**NOTE:** Trails information from Milliken/Johnstown Parks, Trails, Recreation and Open Space Master Plan



North

**Figure 21**  
Johnstown/Milliken Trails Master Plan

**Table 6** summarizes the recommended access control policy guidelines for Johnstown in the future. Johnstown should implement these basic access control guidelines through a formal review and approval process which is based on preparation of a traffic impact study for each development by a qualified traffic engineer. This formal process should give Johnstown staff the ability to control access along the Town’s arterials through a permitting process. Developers will be required to coordinate their access with that of nearby properties so that capacity and safety are maximized while still accommodating growth.

**Table 6. Access Control Policy Guidelines**

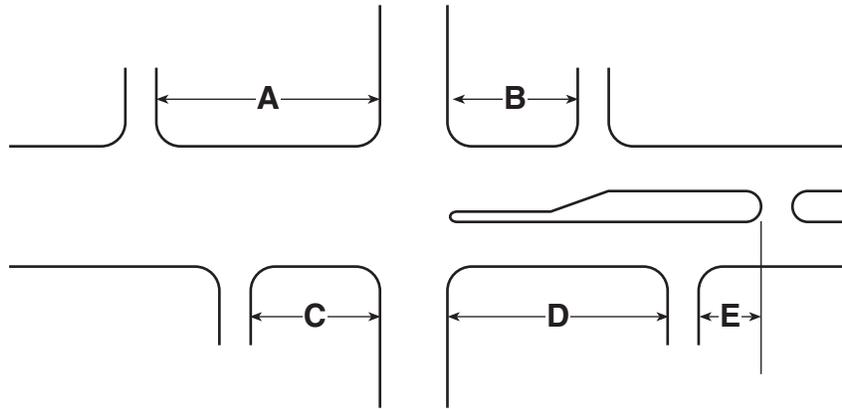
Functional Classification	Access Type	Access Spacing	Traffic Controls
Freeways (SHAC Category – FW)	Grade-Separated Interchanges Only	Freeway-to-Freeway 1 ½ Miles Minimum Freeway-to-Arterial 1 Mile Minimum	Free Flow Merge/Diverge
Regional Arterials (SHAC Category – EX)	Grade-Separated Interchanges	1 Mile Minimum	Signals at Ramp Terminals
	At-Grade Intersections	½ Mile Minimum 1 Mile Preferred	Signals
Principal Arterials (SHAC Category – NRA)	At-Grade Intersections	½ Mile Minimum	Signals
Minor Arterials (SHAC Category – NRB)	At-Grade Intersections	¼ Mile Minimum	Signal – Typical Stop Signs in Special Circumstances
Collectors (SHAC Category – NRC or FR)	At-Grade Intersections	1/8 Mile Typical	Stop Signs – Typical Signals in Special Circumstances
Locals	At-Grade Intersections	Variable	Stop Signs

The purpose of access control is to limit the number of driveways and conflict points, separate conflict points, and separate turning traffic from through traffic. No more than two access points on adjacent streets should be allowed per property, and access should be to collector streets wherever possible. Techniques to limit the number of conflict points include decreasing the number of left turns, using right-in/right-out, restricting movements at median openings, implementation of spacing standards, corner clearance requirements, signal spacing guidelines, and requirements related to the separation of access points.

Turning and through traffic can be separated through the use of left and right turn lanes and two-way left turn lanes. Turning lanes should include adequate provision for acceleration or deceleration to minimize friction to through traffic from turning vehicles which are traveling at slower speeds. The State Highway Access Code (SHAC) provides guidance about requirements for turning lanes including the necessary volume warrants and associated geometrics. Johnstown should follow these guidelines until such time as Johnstown has the need to develop more specific local guidelines. Major arterials should be considered to be classified as non-rural arterials (NR-A) according to Access Code guidelines. Minor arterials would be considered to have an NR-B classification. One exception to this general rule that the

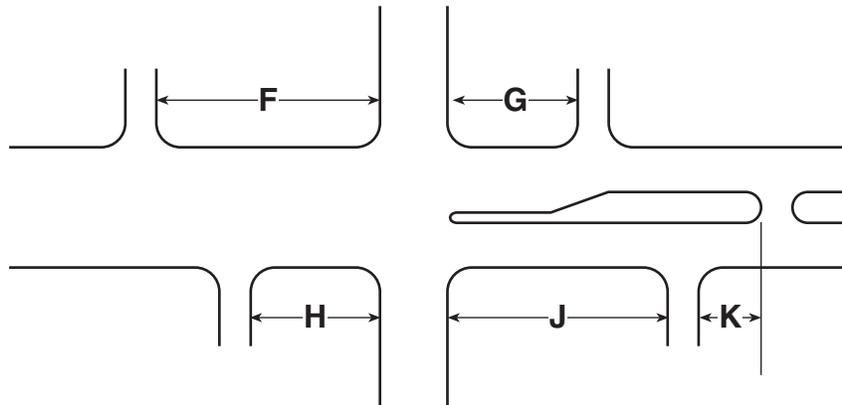
I-25 Frontage Road, although classified as a minor arterial, will be considered to have an NR-A category for access purposes. This recognizes its current use by long haul trucks as the return route to I-25. This category will continue for the foreseeable future as funding for the full movement upgrade to the Johnsons Corner interchange is not included in the 2035 the NFR MPO's Fiscally Constrained Regional Transportation Plan.

**Figure 22** provides guidance concerning the appropriate separation of driveways along arterial, collector, and local roadways.



**Signalized  
Intersection  
Control**

Item	Functional Classification of Road		
	Arterial	Collector	Local
A	230	175	50
B	115	85	50
C	230	175	50
D	230	175	50
E	75	0	0



**Stop-sign  
Intersection  
Control**

Item	Functional Classification of Road		
	Arterial	Collector	Local
F	115	75	50
G	115	85	50
H	85	85	50
J	115	75	50
K	75	0	0

**Figure 22**

**Minimum Corner Clearances  
For Driveways**

Source: Stover and Koepke, Transportation and Land Development,  
Institute of Transportation Engineers, 1988.



## 5.0 PLAN IMPLEMENTATION

### 5.1 *Implementation of Projects*

As traffic increases, there will be a need to construct curb and gutter on the existing major and minor arterial roadways in the Johnstown area. Portions of these roads will also need to be widened as traffic grows. Adjacent development should participate in this process by providing necessary improvements along their property. Johnstown should continue to conduct periodic studies which analyze funding mechanisms so that future growth will also help pay for required public improvements (including arterial roadways) throughout the community. Johnstown's most recent impact fee study was completed in March 2005, and it included a schedule for roadway fees based on the traffic generated by different land uses. In addition, developments should continue to be required to prepare traffic impact studies for their projects so that the requirements for internal roadways, impacts to the surrounding roadway system, and the impact fees that are appropriate for these improvements can be evaluated. The Town already has a transportation impact fee, so the study behind that fee should be periodically updated.

State highways are the primary responsibility of CDOT, in coordination with the NFR MPO. The decision to improve these facilities will be based on state and region-wide funding consideration. Johnstown should monitor this process closely since most facilities in the Johnstown area currently have lower regional priorities for the money coming from federal and /or state sources. Johnstown may need to be prepared to provide local matching funds in order to leverage money on regionally significant corridors.

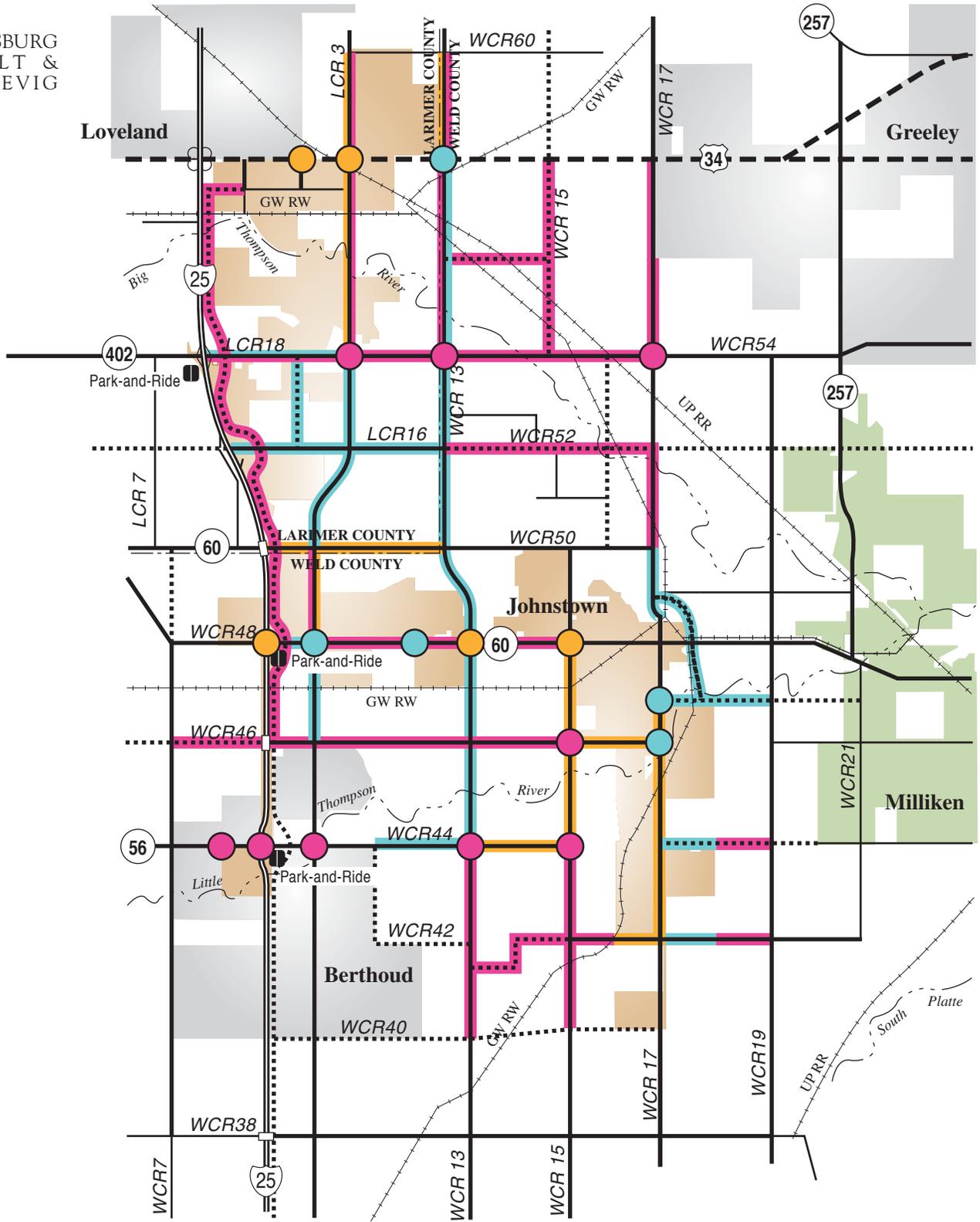
The recommended transportation improvement projects in the Johnstown planning area have been identified through this planning process, and **Table 7** divides the projects into near-term (2013), mid-term (2020) and long-term (2035) time periods based on the projected travel demand. These projects and their recommended time periods are also illustrated on **Figure 23**. Although funding sources for the projects will vary, opinions of probable costs for construction of each project are also presented in **Table 7**. These cost opinions include only items which are considered construction-related and are based on 2007 unit prices. No right-of-way costs have been included since these can be highly variable, depending on the current use and zoning of the adjacent property. The need for certain projects, such as the I-25 parallel arterials and the paving of country roads, will probably be created by specific developments, and these developers should be held responsible for funding of such projects. Additionally, developers should be made responsible for improving the arterial roadway(s) adjacent to their development to the Town's standard cross sections.

**Table 7. Transportation Improvement Projects & Opinion of Probable Costs**

Facility	Proposed Improvement	Johnstown Portion	Johnstown Cost
<b>Short Range - 2008 through 2013 (Years 1-6)</b>			
SH 60/CR 15	Add turn lanes & signalize intersection	100%	\$1,000,000
WCR 17 - WCR 42 to SH 46.5	Improve to Johnstown street standard	0%	\$0
WCR 9.5 - SH 60 to WCR 50	New road to Johnstown street standard	0%	\$0
Signal: SH 60/CR 13	Signalize intersection	25%	\$75,000
Signals: I-25/SH 60 Interchange	Signalize 3 intersections	0%	\$0
Signal: US 34/LCR 3	Signalize intersection	0%	\$0
Signal: US 34/Larimer Parkway	Signalize intersection	0%	\$0
WCR 17 at Riverside	Widen Little Thompson Bridge, Hillsboro Ditch, & GWRR Crossing	100%	\$4,500,000
WCR 50 - I-25 FR to WCR 13	Pave to Weld County standard	33%	\$1,887,531
LCR 3 - LCR 18 to US 34	Pave to Johnstown street standard	25%	\$2,131,500
WCR 15 - WCR 46 to SH 60	Improve to Johnstown street standard	75%	\$2,295,000
LCR 3 - US 34 to LCR 24	Pave to Johnstown street standard	0%	\$0
WCR 13 - US 34 to WCR 60	Pave to Johnstown street standard	0%	\$0
WCR 46 - WCR 15 to WCR 17	Pave to Johnstown street standard	0%	\$0
WCR 15 - WCR 44 to WCR 46	Improve to Johnstown street standard	0%	\$0
WCR 44 - WCR 13 to WCR 15	Pave to Johnstown street standard	25%	\$1,065,750
WCR 42 - GWRR to WCR 17	Pave to Johnstown street standard	0%	\$0
<b>Short Range Subtotal</b>			<b>\$12,954,781</b>
<b>Medium Range - 2014 through 2020 (Years 7-13)</b>			
Truck Route South - SH 60 to WCR 46.5	New road to Johnstown street standard	25%	\$692,738
LCR 3 - WCR 50 to LCR 18	New road to Johnstown street standard	25%	\$2,131,500
WCR 9.5 - WCR 46 to SH 60	New road to Johnstown street standard	0%	\$0
LCR 3E - LCR 16 to LCR 18	Pave to Johnstown street standard	0%	\$0
Signal: SH 60/Carlson Blvd	Signalize intersection	25%	\$75,000
Signal: SH 60/High Plains Blvd	Signalize intersection	0%	\$0
Signal: WCR 17/WCR 46	Signalize intersection	50%	\$125,000
Signal: WCR 17/WCR 46.5	Signalize intersection	0%	\$0
Signal: US 34/WCR 13	Signalize intersection	0%	\$0
SH 60 - I-25 to WCR 9.5	Widen to 4 lanes w/cgs	0%	\$0
WCR 44 - WCR 11 to WCR 15	Improve to Johnstown street standard	0%	\$0
WCR 13 - WCR 44 to WCR 50	Improve to Johnstown street standard	0%	\$0
WCR 13 - WCR 50 to US 34	Pave to Johnstown street standard	0%	\$0
Truck Route North - WCR 17 to SH 60	New road to Johnstown street standard	0%	\$0
LCR 18 - I-25 FR to LCR 3	Improve to Johnstown street standard	24%	\$1,028,160
LCR 16 - I-25 FR to WCR 13	Improve to Johnstown street standard	0%	\$0
WCR 17 - N. First St. to WCR 50	New road to Johnstown street standard	50%	\$1,598,625
WCR 46.5 - WCR 17 to WCR 19	Pave to Johnstown street standard	0%	\$0

Facility	Proposed Improvement	Johnstown Portion	Johnstown Cost
WCR 44 - WCR 17 to WCR 17.5	Pave to Johnstown street standard	0%	\$0
WCR 42 - WCR 17 to WCR 17.5	Pave to Johnstown street standard	0%	\$0
<b>Medium Range Subtotal</b>			<b>\$5,651,023</b>
<b>Long Range - 2021 through 2035 (Years 14-28)</b>			
WCR 17 - WCR 50 to WCR 52	Improve to Johnstown street standard	50%	\$1,530,000
I-25 East F. R. - WCR 46 to US 34	Improve to Johnstown street standard	25%	\$4,590,000
WCR 13 – WCR 40 to WCR 44	Improve to Johnstown street standard	0%	\$0
WCR 15 – WCR 54 to US 34	Improve to Johnstown street standard	0%	\$0
WCR 15 – N. 4 <sup>th</sup> St. to WCR 50	Improve to Johnstown street standard	0%	\$0
WCR 50 – WCR 13 to WCR 17	Improve to Johnstown street standard	0%	\$0
Signals: I-25/SH 56 Interchange	Signalize 3 intersections	0%	\$0
Signal: LCR 18/LCR 3	Signalize intersection	0%	\$0
Signal: WCR 54/WCR 13	Signalize intersection	0%	\$0
Signal: WCR 54/WCR 17	Signalize intersection	0%	\$0
Signal: WCR 46/WCR 15	Signalize intersection	0%	\$0
Signal: WCR 44/WCR 15	Signalize intersection	0%	\$0
Signal: WCR 44/WCR 13	Signalize intersection	0%	\$0
Signal: WCR 44/WCR 9.5	Signalize intersection	0%	\$0
Signal: SH 56/WCR 7.5	Signalize intersection	0%	\$0
WCR 46 - I-25 FR to WCR 15	Pave to Johnstown street standard	0%	\$0
SH 60 - WCR 9.5 to WCR 15	Widen to 4 lanes w/cgs	0%	\$0
LCR 18 - I-25 FR to WCR 17	Widen to 4 lanes w/cgs	25%	\$4,042,500
WCR 17 - WCR 54 to WCR 56	Widen to 4 lanes w/cgs	0%	\$0
WCR 17 - WCR 56 to US 34	Widen to 4 lanes w/cgs (west side only)	0%	\$0
LCR 3 - LCR 18 to US 34	Widen to 4 lanes w/cgs	0%	\$0
WCR 9.5 - SH 60 to WCR 50	Widen to 4 lanes w/cgs	50%	\$1,617,000
WCR 13 - WCR 54 to US 34	Widen to 4 lanes w/cgs	50%	\$4,851,000
LCR 3 - US 34 to LCR 24	Widen to 4 lanes w/cgs	50%	\$1,617,000
WCR 13 - US 34 to WCR 60	Widen to 4 lanes w/cgs	50%	\$1,617,000
WCR 15 - WCR 40 to WCR 44	Pave to Johnstown street standard	0%	\$0
WCR 52 - WCR 13 to WCR 17	Pave to Johnstown street standard	0%	\$0
WCR 42 - WCR 13 to GWRR	Pave to Johnstown street standard	0%	\$0
WCR 56 - WCR 13 to WCR 15	Pave to Johnstown street standard	0%	\$0
WCR 46 - WCR 7 to I-25 FR	Pave to Johnstown street standard	0%	\$0
WCR 42 - WCR 17.5 to WCR 19	Pave to Johnstown street standard	0%	\$0
WCR 44 - WCR 17.5 to WCR 19	Pave to Johnstown street standard	0%	\$0
<b>Long Range Subtotal</b>			<b>\$19,864,500</b>

Note: 2007 Unit Costs



**LEGEND**

-  = Short Range Projects (2008 thru 2013)
-  = Median Range Projects (2014 thru 2020)
-  = Long Range Projects (2021 thru 2035)

**Figure 23**

**Roadway Improvement Plan**



North

## 5.2 Roadway Widening Phasing Options

When land is developed along a road that is planned as a future four-lane arterial, the developer is generally required to construct a two-lane roadway as an interim phase toward the ultimate four-lane roadway section. The three different options for constructing the interim phase of a future two-lane road are listed below, along with a summary of the major advantages, disadvantages, and applicability of each.

### **BUILD INSIDE FIRST**

Most applicable if interim road is expected to last a long time or ultimate four-lane need is uncertain.

#### **Advantages**

- ▶ Minimal transition with existing road – most functional immediately

#### **Disadvantages**

- ▶ May have major throwaway costs (temporary outside curb and gutter, pavement over future median)
- ▶ If sidewalks are constructed at ultimate location, creates major landscape maintenance area between road and sidewalk

### **BUILD OUTSIDE FIRST**

Most applicable if development is expected to necessitate the ultimate section in the relatively near term.

#### **Advantages**

- ▶ Establishes sidewalks, landscaping, drainage, etc.
- ▶ Establishes driveway tie-in to ultimate roadway

#### **Disadvantages**

- ▶ Creates wide median area to maintain
- ▶ Awkward turns across wide median

### **BUILD HALF STREET ON DEVELOPMENT SIDE**

Most applicable if development is expected to occur in a relatively orderly manner, or if funding such as impact fees is available to fill in the gaps.

#### **Advantages**

- ▶ Developer can construct “finished” side landscaping, sidewalk, etc.
- ▶ Straight-forward cost allocation for developers on opposite sides
- ▶ Establishes driveway tie-in to ultimate roadway

#### **Disadvantages**

- ▶ Major transition to half-section on opposite side of street
- ▶ Sidewalks are discontinuous – no sidewalk on undeveloped side

## 6.0 SUMMARY OF RECOMMENDATIONS

The intent of this Transportation Plan is to ensure that the Town of Johnstown has a plan in place for development of an effective transportation system that is upgraded, as necessary, in anticipation of growth. Johnstown is expected to experience significant growth over the next 25 years and beyond. In 2035, it is forecasted that Johnstown area will have a population of approximately 48,500 with approximately 28,400 jobs. This Transportation Master Plan provides recommendations for transportation improvements that respond to the projections for growth.

Johnstown's 2035 Roadway Plan includes intersection improvements, widening sections of roadways, constructing the I-25 parallel arterials, paving of county roads, completing missing roadway links and railroad crossings. As identified in **Table 7**, some of these projects will be the responsibility of the Town (often times in conjunction with private developments), while others are more regional in nature and will require coordination with CDOT and/or surrounding jurisdictions. The near-term of **Table 7** include 17 specific projects which have an anticipated total cost of approximately \$13,000,000. The Town should begin to plan and budget for the completion of these projects as well as the paving of section-line roads, as appropriate. Many of the long-term projects will require considerable coordination with the surrounding jurisdictions; the Town should initiate this coordination to begin the planning process. The following list provides a summary of other actions the Town of Johnstown should consider taking to ensure that the needed transportation improvements are funded:

- ▶ Periodically update the Town's traffic impact fee study to reflect growth trends, transportation improvement requirements, and construction costs.
- ▶ Require traffic impact studies from all proposed developments so that the requirements for internal roadways, impacts to the surrounding roadway system, and the impact fees that are appropriate for these improvements can be evaluated. Developers should be responsible for improving the arterials adjacent to their developments to Johnstown's standard cross sections.
- ▶ Continue to participate in the North Front Range regional transportation planning and budgeting process to ensure the consideration of Johnstown's vision for regional roadways.



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