Appendix A
Existing Conditions

Existing Conditions

Existing Plans

A variety of plans have been completed by the City of Fort Collins and other agencies that address transportation, access, and other issues along Harmony Road. The following is a summary of each of these plans including how each relates to Harmony Road and any recommendations that affect Harmony Road. **Table A-1** lists these plans and provides a brief description of their relevance to the Harmony Road corridor.

Table A-1. Existing Plans Summary

Plan or Document	Agency	Year	Relevance to Harmony Road Corridor
Plan Fort Collins and Transportation Master Plan	City of Fort Collins	2011	Identifies Harmony Road as an ETC, sets community goals and vision
Harmony Corridor Plan	City of Fort Collins	1991, Updated in 2006	Establishes desired land uses, urban design (landscaping and setback) and gateway features of the corridor, and provides accompanying standards and guidelines
Harmony Corridor District as part of the City's Land Use Code	City of Fort Collins	1998, Updated in 2010	Establishes zoning and allowable land uses in the Harmony Corridor District
Harmony Access Control Plan Update	CDOT, City of Fort Collins, Larimer County	2000	Establishes typical cross-section, traffic control and access recommendations
Transfort Strategic Operating Plan Update	Transfort	2009	Establishes transit operating improvements for near term implementation including route modifications/extensions along Harmony Road
Fort Collins Pedestrian Plan	City of Fort Collins	2011	Establishes Citywide principles and polices to promote pedestrian-friendly environment
Harmony Road Bicycle Project: Concept Plan	City of Fort Collins	1996	Provides bicycle facility recommendations for the Harmony Road corridor which have been implemented
Fort Collins Bicycle Plan	City of Fort Collins	2008	Identifies Citywide bicycle network, designates Harmony Road as a Primary Commuter Route
NFRMPO 2035 Regional Transportation Plan Update	NFRMPO	2011	Establishes Harmony Road as a Regionally Significant Corridor and describes its regional Corridor Vision
North I-25 Environmental Impact Statement	CDOT and FHWA	2011	Among other regional improvements, recommends express bus service along Harmony Road
Larimer County Transportation Plan	Larimer County	2006	Establishes CR 38 (Harmony Road) to the east of Fort Collins as a regional road and Identifies roadway improvement needs on CR 38 east and west of the City of Fort Collins
Timnath Transportation Plan	Town of Timnath	2005	Identifies short-term and long-range improvements for CR 38 (Harmony Road) east of I-25

Plan Fort Collins and Transportation Master Plan

Project Limits: City of Fort Collins
Report Date: February 2011 (update to 2004 TMP)

The City of Fort Collins adopted their current comprehensive plan, *City Plan* in 2011. *City Plan* establishes a community vision that is centered on three major themes: innovate, sustain, and connect. The City's sustainability initiatives are documented in *City Plan*; Fort Collins' sustainability model is based on a triple bottom line perspective that incorporates environmental, economic, and human considerations.

The City of Transportation Master Plan (TMP) is an element of *City Plan* and serves to document a bold vision for the long-range multimodal transportation system that will support the Fort Collins community well into the future. The plan provides policy direction for decisions regarding the implementation of the transportation system to achieve the City's vision, mission, and values as a World Class Community. The TMP sets the vision planning horizon at 2035, with the understanding that the plan will be updated approximately every five years.

The TMP provides priority actions and strategies for implementing projects and services to meet short-term needs while working toward the long-range goals for the ultimate transportation system the City and community strive to achieve. Actions are identified that will happen concurrent with the adoption of the plan in the short-term (1-2 years) and longer term (3+ years) to achieve the vision of this TMP. The Plan also includes performance measures to ensure continuous improvement.

The 2011 TMP references four Enhanced Travel Corridors (ETCs) (Mason Corridor, Harmony Road, Timberline Road/Power Trail and Mountain Vista Road) that were introduced in the 2004 TMP, plus two additional ETCs (Elizabeth Street and Prospect Road), as uniquely designed corridors that are planned to incorporate high frequency transit, bicycling, and walking as part of the corridor. ETCs are intended to support high quality economic development opportunities for mixed-use, transit-oriented development and support Fort Collins' active lifestyles and environmental stewardship goals.

The Harmony Road Corridor between I-25 and the Mason ETC was identified as an ETC in the 2004 TMP; the 2011 TMP extends the length of the corridor from I-25 to Front Range Community College, west of the Mason Corridor. The Harmony Road Corridor is intersected by two other ETCs: the Mason ETC and Timberline Road/Power Trail ETC. The TMP notes that each corridor will have a context-specific design with the Harmony Road Corridor likely to be focused on infill and redevelopment.

The TMP specifies one of its Near-Term Actions (2011-12) as developing the Harmony Enhanced Travel Corridor Master Plan and updating the Harmony Plan and Harmony Corridor Standards to provide a new vision for the Harmony Corridor and gateway area.

Harmony Corridor Plan

Project Limits: Harmony Corridor between College Avenue and I-25
Report Date: Updated in February 2006

The Harmony Corridor Plan and the corresponding Standards and Guidelines are the impetus behind the existing land uses, development pattern and zoning between I-25 and College Avenue on the Harmony Corridor. The plan was initiated in 1991 when large portions of the corridor began to be annexed into the City. The document has been tweaked over the years, but never holistically revisited. The plan has three focuses for the corridor: the gateway, urban design and land use.

This corridor was termed the "gateway" because it is the first point into Fort Collins from the south. Its most significant features described in the plan are the natural areas associated with the Cache la Poudre River that crosses I-25 just north of the Harmony interchange and the ponds, lakes and wetlands in the vicinity. The plan's intent was to preserve these valued natural environments as recreational, educational and scenic resources at the gateway to Fort Collins.

The urban environment was the second focus of the plan. In 1991, at the onset of the plan, the most prominent development along this corridor was the Hewett Packard business park/campus at the northwest corner of Ziegler and Harmony Roads. This development, the natural environment of the "gateway" and the unusually wide right-of-way of Harmony Road inspired the overall design concept set forth in the plan. The urban environment is characterized by wide setbacks (80 feet from Harmony Road), naturalistic berming, a meandering sidewalk and groves of oak trees alternating with wildflower meadows. It also suggests a large central parkway between the east and west travel lanes to be landscaped with wild flowers and groves of oak trees.

The third focus of the plan, land use, locates different types of activity centers throughout the corridor. The vision for the corridor was to be a major business center in northern Colorado, one that included a mixture of land uses, such as: business, industrial, residential, office, recreational, open space and retail activities. The plan calls for a 75/25 split of primary and secondary uses, something that is not utilized anywhere else in the city. The intent of this 75/25 primary and secondary use split was to ensure that the corridor provides an abundance of primary and secondary jobs to enhance the local economy. In addition to this limitation, free-standing highway related commercial uses (convenience stores, fast-food restaurants, gas stations and the like) are not permitted outside of planned shopping centers or industrial parks in the corridor. These land use guidelines, other complexities intertwined in the plan and tweaks to the plan over time make development activity along the corridor very complicated.

Harmony Corridor District as part of the City's Land Use Code

Project Limits: Majority of Harmony Corridor between College Avenue and Strauss Cabin Road
Report Date: Initiated in 1998, last updated in 2010

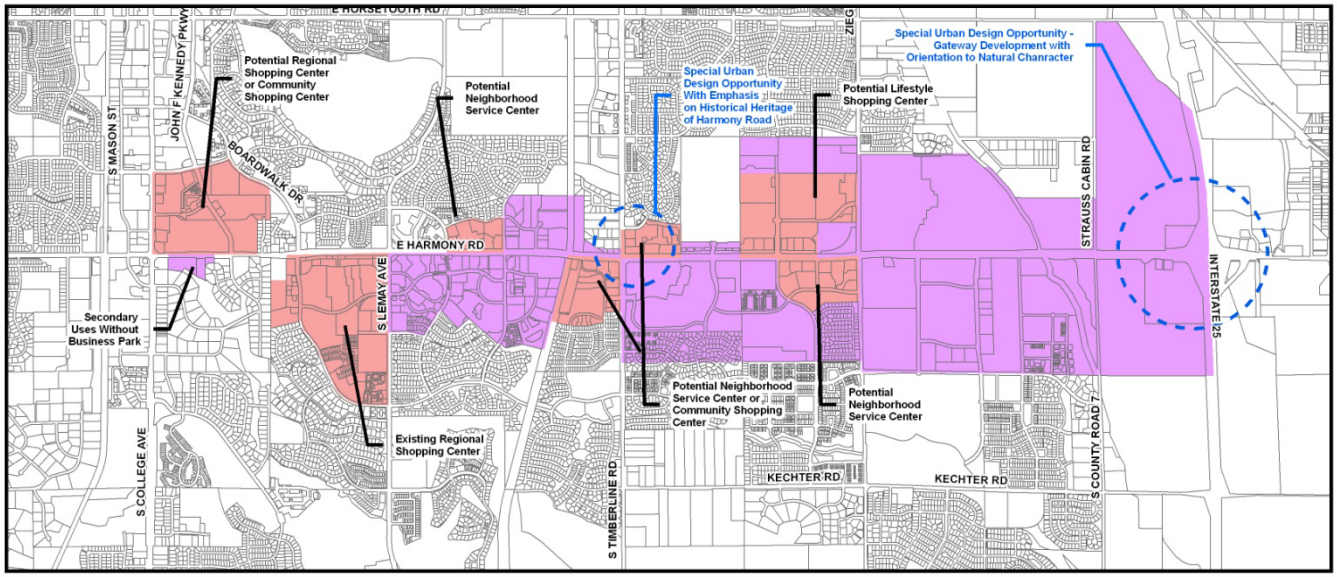
Purpose Statement: *The Harmony Corridor District is intended to implement the design concepts and land use vision of the Harmony Corridor Plan – that of creating an attractive and complete mixed-use area with a major employment base.*

The Harmony Corridor Plan is supplemented by a Standards and Guidelines document that sets forth the urban design expectations and land uses permitted throughout the corridor. The majority of the urban design expectations have been integrated into the City's Land Use Code over the years and are now standards required in all zone districts. The land use and locational standards and guidelines, however, are quite specific to the Harmony Corridor and very different than other zone districts in the City. Unlike other zones, the Harmony Corridor is broken up into three different types of activity centers (see map on the following page):

1. Basic Industrial and Non-Retail Activity Centers (BINRAC), which makes up the majority of the corridor;
2. Mixed Use Activity Centers, which are further broken out into:
    a. Regional Shopping Centers
    b. Community Shopping Centers
    c. Neighborhood Service Centers
    d. Lifestyle/Regional Shopping Centers
3. Neighborhood Convenience Centers

HARMONY CORRIDOR PLAN

LAND USE PLAN **MAP 10**



Harmony Activity Centers

Basic Industrial and Non-Retail Activity Center

Mixed-Use Activity Centers - Potential Shopping Center Locations

The BINRAC and Mixed Use Activity Centers are described in great detail in the Standards and Guidelines. Each center and sub-center has specific land uses permitted, breaking out primary and secondary uses for each. Secondary uses in the BINRAC may only occupy 25% of the total gross area of the development plan.

BINRAC Primary Uses:

- Research facilities, testing laboratories, offices and other facilities for R&D
- Industrial uses
- Hospitals, clinics, nursing and personal care facilities
- Regional, national or international headquarters of a services-producing organization
- Vocational, business or private schools and universities
- Professional offices
- Other uses of similar character as determined by the Planning and Zoning Board

BINRAC Secondary Uses:

- Hotels/motels
- Sit-down restaurants
- Neighborhood convenience shopping centers
- Child care centers

- Athletic clubs
- Single family and multi-family housing
- Accessory buildings and uses

The Mixed Use Activity Centers allow the uses permitted in the BINRAC and a variety of retail and commercial uses; each type of shopping or service center is further defined in terms of specific uses, scale and character in the Standards and Guidelines document.

These zoning standards are much more complicated than most zone districts in the City. Fortunately for land owners, developers and planners, all the Mixed Use Activity Centers are built out and only one large BINRAC property remains along the corridor. This is located at the southeast corner of Harmony and Ziegler Roads, southeast of the Intel campus. Ironically, this is directly across from the Hewlett Packard business campus, which was the impetus behind the design concept set forth in the original Harmony Corridor Plan adopted in 1991.

Harmony Access Control Plan Update

Project Limits: Harmony Road, College Avenue (US 287) to Interstate 25
Report Date: July 2000

The City of Fort Collins, in concert with CDOT and Larimer County, prepared an Access Control Plan Update to evaluate existing and future access needs in conformance with the standards of the *State Highway Access Code* and to improve overall safety for the project corridor. The plan identified locations for future access or access restrictions and evaluated the need for, and location of, future traffic signals. The project:

- Conducted an inventory of existing access locations, access categories, and traffic control
- Evaluated existing traffic volumes and resultant operational levels of service (LOS)
- Summarized the accident history along the corridor
- Predicted future traffic volumes
- Conducted LOS analyses of future conditions at critical intersections

The final Access Control Plan provided a recommended roadway typical section that was a modified version of the City's Major Arterial Street section: 6 through lanes with a raised and landscaped median, 10' bike lanes, with an 80' building setback used as a landscape buffer which contains an 8' pedestrian trail.

Specific traffic control and access recommendations of the plan included:

<u>Traffic Control</u>

- Traffic signal at Snow Mesa Drive (completed)
- Traffic signal at Hewlett Packard (West) access
- Traffic signal at Lady Moon Drive (completed)
- Traffic signal at Strauss Cabin Road
- Traffic signal at the Harmony Transfer Center (completed)

<u>Access Restrictions</u>

- Stover Street – Convert to ¾ movement (no left turn or crossing movement from the side street)
- Wheaton Drive – Convert to ¾ movement (completed)

As Harmony Road is improved to a six-lane Major Arterial roadway, a raised median will be installed along its entire length; Major Arterial elements have already been completed between Timberline Road and I-25.

Installation of a raised median will also restrict access for private parcels to ¾ or right turn movements. To supplement these access restrictions, Access Circulators would be installed in as many locations as possible. Access Circulators provide an alternate, parallel connection between intersecting public streets along Harmony Road.

Transfort Strategic Operating Plan Update

Project Limits: Fort Collins urbanized area
Report Date: August 2009

The Transfort Strategic Operating Plan (TSOP) was developed in a collaborative effort between the City of Fort Collins – Transfort, the City of Loveland – COLT, and Poudre School District (PSD). The purpose was to provide a coordinated update to the Transfort Strategic Operating Plan and the COLT Transit Plan, and to analyze opportunities public transportation offers PSD high schools.

Three phases are proposed in the plan, each taking steps toward creating a more grid-like transit network, expansion of service frequencies and providing more regional routes. Service on Harmony Road is proposed to be changed in each phase as follows:

Phase 1

- The South Transit Center (STC) is proposed to be located southwest of Harmony Road and College Avenue. This will serve as the major transfer station, park and ride facility and the terminus of the Mason ETC.
- A route is proposed to extend from the Harmony Transfer Center at Harmony and I-25 west to Front Range Community College, at the southeast corner of Shields Street and Harmony Road.
- Other minor route changes are proposed along Harmony Road to increase efficiency.

Phase 2

- A Poudre Valley Hospital (PVH) Harmony Campus Transit Center is proposed to be located near the intersection of Harmony Road and Timberline Road. This will serve as a transfer point for a proposed north/south route on Timberline Road and the routes on Harmony Road.
- Increased frequencies are proposed for routes serving PSD high schools. Fossil Ridge High School is located southeast of Ziegler and Harmony Roads; thus service frequency will be increased in the vicinity.
- Several routes are realigned to terminate at the STC.

Phase 3

- Service on Harmony Road is largely the same in Phase 3 as it is in Phase 2, with the exception of increased frequencies and added regional route connections at the PVH Transit Center and the STC.

Since the plans' 2009 adoption, some efficiency changes have been made to the routes on Harmony Road, but very few steps have been taken toward the proposed Phase 1 improvements. Once the STC is built, many of the Phase 1 changes will likely commence. Construction on the STC is anticipated to begin in May of 2012 and completed in early 2013. Phase 2 improvements are targeted for 2015 and Phase 3 improvements are expected to be done by 2017.

Fort Collins Pedestrian Plan

Project Limits: City of Fort Collins
Report Date: February 2011

The purpose of the Pedestrian Plan is to promote a pedestrian-friendly environment to encourage walking throughout the City. To accomplish this, the plan identifies ways to create pedestrian friendly environments including along public streets, off-street paths and other public spaces that offer a high level of comfort, convenience, safety and quality of experience. The plan updates and prioritizes the list of pedestrian improvement projects throughout the City as well.

Specific topics covered in the plan include:

- Benefits of a walkable Fort Collins
- Sustainability and walkability
- Factors influencing walkability
- Vision, Principles, Policies
- Pedestrian priority areas
- Pedestrian Level of Service
- Crossing policy
- Implementation

Elements that impact the Harmony Corridor include a number of the stated Principles and Policies:

Principle P1: Provide and encourage direct pedestrian connections.
Policy P1.1 – Direct and Visible Connections

- Provide direct and visible pedestrian connections between cul-de-sacs, transit stops, schools, activity areas, public facilities, and other key pedestrian destinations.

Policy P1.2 – Avoid Barriers

- Minimize and remove barriers that impede direct pedestrian access.

Principle P2: Link schools, neighborhoods, parks, activity centers, and other destinations with a continuous pedestrian network.
Policy P2.2 – Enhanced Travel Corridors and Activity Centers

- Develop a complete pedestrian network in Enhanced Travel Corridors and Activity Centers.

Principle P3: Develop safe, functional, and visually appealing street crossings.
Policy P3.3 – Pedestrian Level of Service

- Apply intersection improvements to achieve and maintain pedestrian level of service standards at intersections.

Principle P4: Develop comfortable and attractive pedestrian facilities and settings to support and enhance the pedestrian network.
Policy P4.1 – Pedestrian Scale

- Provide pedestrian scale improvements that fit the urban context of the area.

Harmony Road Bicycle Project: Concept Plan

Project Limits: Harmony Road, College Avenue (US 287) to Interstate 25
Report Date: June 1996

The City of Fort Collins planned and designed facilities for bicycle transportation on Harmony Road between College Avenue and I-25 in June 1996. The project included the following specific tasks:

- Data Collection
- Planning and Conceptual Design
- Preliminary Design

Key elements of the design concept included:

- Bicycle lanes on Harmony Road
- Construction of continuous bike lanes on streets paralleling Harmony Road immediately adjacent to new commercial, office, and industrial development (called "back-street bikeways" in the Fort Collins Bicycle Program Plan)

The plan recommends that the wide sidewalk adjacent to the roadway would purposefully be designed to favor pedestrians and to discourage cyclists from riding on it; to that end, it was recommended that the sidewalk be constructed in a meandering fashion and to not be designated a bicycle facility.

The plan divided the corridor into 18 segments, and bicycle facility recommendations were presented for each. The recommendations generally included 6 – 10 foot bicycle lanes adjacent to existing east/west traffic lanes, depending on the right-of-way and traffic lane configurations.

Fort Collins Bicycle Plan

Project Limits: City of Fort Collins
Report Date: October 2008

The 2008 Bicycle Plan was prepared to update and expand upon the *1995 Fort Collins Bicycle Program Plan* (*1995 Bike Plan*). The goals of the document are to create a community wherein choosing bicycling as transportation is easy and to expand opportunities for the residents and visitors of Fort Collins to incorporate bicycling into their daily lives.

The Plan presents information on existing conditions as well as recommendations for improvements targeted at the next five years that will result in a more efficient and effective bicycle network, with the intent of supporting existing bicyclists and encouraging more people to ride more frequently.

Specific areas covered include:

- Engineering Design and the Proposed Bikeway Network
- Promoting Bicycling through Education, Encouragement
- Enforcement
- Recognizing Economic, Environmental and Community Benefits
- Multimodal Connectivity

The Plan provides a status update on the specific projects from the 1995 Bike Plan's "Hot List", and also creates a new list ("Hot List II") that includes additional projects that came out of the 2008 planning efforts.

Hot List II projects relevant to Harmony Road include:

- Mason Trail – Grade separation at Harmony
- Harmony, Cinquefoil to Strauss Cabin – Bicycle lanes

Harmony Road between Taft Hill Road and the Harmony Transfer Center is designated a "Primary Commuter Route" in the Plan.

NFRMPO 2035 Regional Transportation Plan Update

Project Limits: NFRMPO
Report Date: September 2011

The North Front Range Metropolitan Planning Organization (NFRMPO) completed an update to their 2035 Regional Transportation Plan (RTP) in September 2011. The RTP is a corridor-based plan, and Harmony Road is part of the SH 392 Regionally Significant Corridor. The vision for this corridor includes three goals:

- Reduce traffic congestion and improve traffic flow with a focus on commuter travel
- Reduce dependency on single occupancy vehicles by initiating transit services and Transportation Demand Management (TDM) usage
- Preserve and minimize/mitigate impacts to protected public open lands/natural areas

The strategies listed to achieve these goals can be summarized as:

- Perform and implement studies to enhance mobility
- Improve mobility through auxiliary lanes, intersection improvements and wider shoulders
- Expand transit service coverage and frequencies
- Implement appropriate TDM mechanisms
- Promote Intelligent Transportation System (ITS) strategies
- Maintain and improve the existing infrastructure
- Increase safety
- Preserve right of way and construct additional general purpose lanes

The Regionally Significant Corridors are grouped in three "tiers," by which future funding is allocated. The SH 392 corridor is categorized as a Tier Three corridor, which has a funding allocation of 15 percent of the region's flexible funds. The fiscally constrained plan includes partial funding ($11.3 million of the $36.6 million total project cost) of the widening of Harmony Road (I-25 to US 287) from four to six lanes. No specific funding source or timeframe is identified for this partial funding.

North I-25 Environmental Impact Statement

Project Limits: Wellington to Denver, Fort Collins to Greeley
Report Date: November 2011

The Colorado Department of Transportation (CDOT) in conjunction with the Federal Highway Administration completed the Environmental Impact Statement (EIS) to identify transportation improvements needed to connect the rapidly growing northern Colorado communities to the Denver metropolitan area.

The EIS evaluated a wide-range of multimodal solutions and recommended a Preferred Alternative that was developed through a collaborative decision-making process with the communities in the study area.

The Preferred Alternative includes:

- Commuter rail service along the BNSF Railway line between downtown Fort Collins and RTD's North Metro and Northwest rail corridor lines
- Tolled express lanes and general purpose lanes along I-25
- Express bus service connecting Fort Collins and Greeley to downtown Denver using Harmony Road, US 34, and I-25
- Commuter bus service along US 85 connecting Greeley to downtown Denver

The Express Bus would travel along Harmony Road between US 287 and I-25, with stops at the South Transit Center, Timberline Road and the Harmony Transfer Center near I-25, before continuing south to Denver along I-25. The commuter rail service would also stop at the South Transit Center. Together, these two services would add 130 spaces to the South Transit Center parking in addition to the 169 parking spaces already planned as part of the Mason ETC. The Timberline express bus stop would be located on-street and includes minimal capital investment and no additional parking. The express bus stop at the multimodal transfer facility would increase the parking supply by 350 spaces to accommodate additional parking demand generated by the express bus service and carpool/vanpool activity.

Because the cost of the Preferred Alternative exceeds the funding currently available, the EIS also developed a phasing plan. Projects in the first phase are included in the fiscally constrained regional transportation plans and have been cleared in the Record of Decision. A select set of improvements associated with the Express Bus are in Phase 1 including expansion of the Harmony Transfer Center at Harmony and I-25.

Larimer County Transportation Plan

Project Limits: Larimer County
Report Date: September 2006

Larimer County's Transportation Plan classifies CR 38 (the Harmony Road alignment) as an arterial from I-25 to CR 5 (in Timnath), and as a major collector to the east of CR 5. On the west side of the Fort Collins, CR 38E is classified as an arterial from Taft Hill Road westward to CR 23. CR 38 to the east of Fort Collins is identified as one of the County's regional roads, which are the focus of the Regional Road Capital Expansion Fee. The Plan identifies transportation improvement needs on CR 38 as follows:

- CR 38 from I-25 to CR 5 – widen (this work has been completed)
- CR 38E from CR 23 to CR 19 – add third lane

Larimer County is currently in the process of updating their Transportation Plan.

Timnath Transportation Plan

Project Limits: Town of Timnath Growth Area
Report Date: February 2005

The Town of Timnath's Transportation Plan was developed based on the future land use plan in the Town's 2002 Comprehensive Plan (which has subsequently been updated). The plan includes recommended roadway cross-sections and a list of short-term and long-range transportation improvement projects to realize the Town's Roadway System Plan. The Plan shows the need for six lanes on CR 38 (the Harmony Road alignment east of I-25) from I-25 to CR 3. East of CR 3, the Plan shows the need for four lanes on CR 38, with right-of-way preservation for six lanes. The Town's 4-lane and 6-lane arterial cross-sections both include seven foot bike lanes and a six foot detached sidewalk. Planned land uses along the CR 38 corridor include commercial, mixed

use, and industrial. Nearly 54,000 vehicles per day (vpd) are forecast in 2030 on the section of CR 38 between I-25 and CR 5. East of CR 5, the forecasted volume drops substantially.

The short-term improvements along CR 38 are listed below (all have been completed):

- CR 38/CR 5 – intersection reconstruction and signalization
- CR 38 – replace bridge over Poudre River (6 lanes)
- CR 38 from I-25 to CR 3 – widen to 4 lanes

The long-range improvements along CR 38 include:

- CR 38 from I-25 to CR 3 – widen to 6 lanes
- CR 38 from CR 3 to CR 1 – widen to 4 lanes
- CR 38/CR 3 – signalize intersection
- CR 38/CR 1 – signalize intersection

Near-Term Projects

Mason Corridor BRT

The Mason Corridor is currently under construction for Bus Rapid Transit (BRT) service and to improve non-motorized facilities, and is scheduled to be completed in 2014. The new BRT service will run north/south adjacent to Mason Street and the Burlington Northern Santa Fe Rail Road, which parallels the busy College Avenue. It will provide a connection between the Downtown Transit Center and a new transit center, the South Transit Center (STC), located south of the Mason Street and Harmony Road intersection. This service combined with a new shared-use trail along Mason Street will improve access to the corridor.

Timberline Road/Power Trail ETC

The planning work for the Timberline Road/Power Trail ETC is a future project. This network of ETCs will circle the City providing alternatives to the now dominant auto oriented transportation throughout the City, Harmony Road acting at the southern most east/west connection through the City.

Physical Characteristics

Harmony Road is a major transportation corridor through the southern area of the City of Fort Collins, traveling east/west from Horsetooth Reservoir eastward past Interstate 25 (I-25), through the Town of Timnath, and into Weld County. Within the project limits of the Harmony Road ETC, the City's *Master Street Plan* identifies Harmony Road as a six-lane major arterial between College Avenue (US 287) and I-25, and as a four-lane arterial west of College Avenue.

Recent urban design improvements at the College Avenue/Harmony Road intersection.

The corridor is mostly developed with a mixture of land uses that follow the standards established in the Harmony Corridor Plan and corresponding Standards and Guidelines. Many of the developments along the corridor have been constructed within the last three decades. The corridor primarily consists of a mixture of employment, commercial, healthcare, and educational uses with a small amount of undeveloped farmland remaining on the eastern end of the corridor.

The character of Harmony Road varies based on the level of development

that has been completed. Urban design character broadly follows the recommendations from the Harmony Corridor Plan with large landscaped setbacks and informal tree plantings creating campus-style settings. But some areas along the corridor have redeveloped into new activity centers that front the corridor. Newer urban design infrastructure improvements have been completed at the I-25 interchange and the Harmony Transfer Center, and more recently with the College Avenue/Harmony Road intersection. These improvements each have a distinct character reflecting their surroundings. No significant Fort Collins gateway design has been implemented from the I-25 access along Harmony Road.

Where medians have been constructed, their designs have been inconsistent with various styles of splashblock and planting concepts being used. Street light patterns and locations are also inconsistent with some areas lit from the medians, some from the street edges, and some areas with a more rural treatment of limited or no lighting.

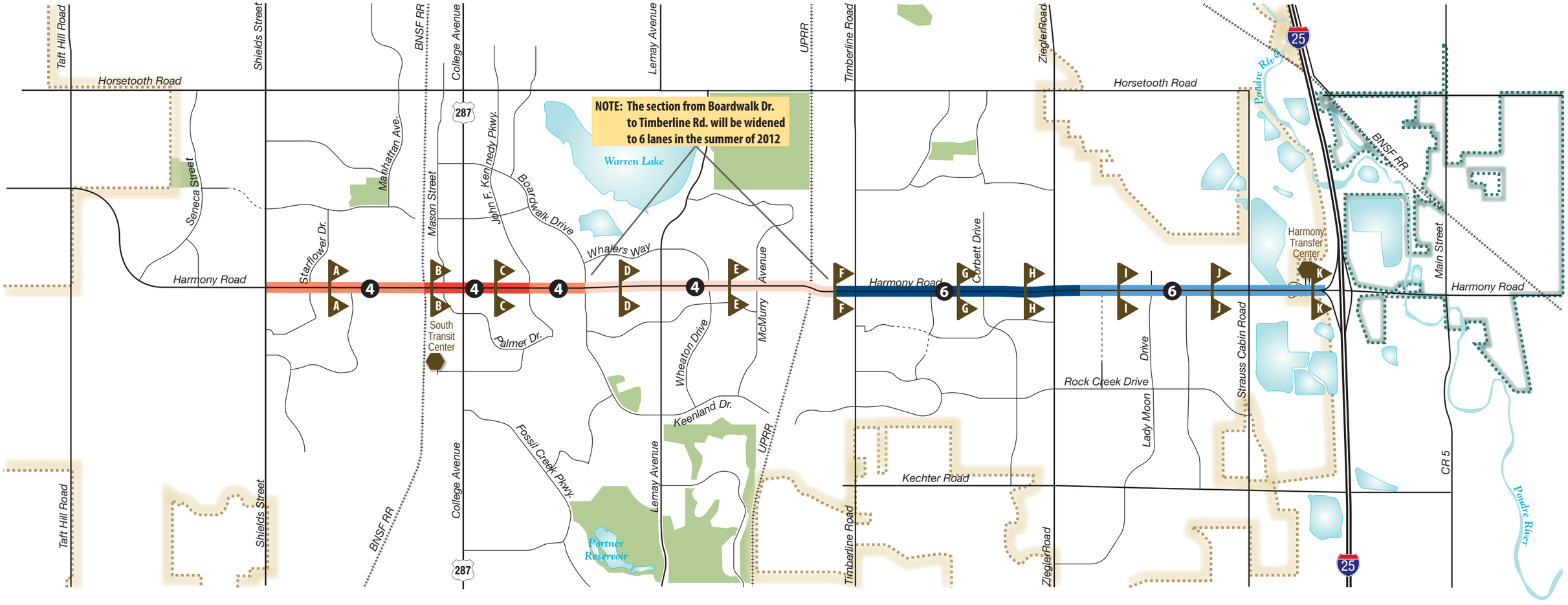
While Harmony Road consists of typical four-lane and six-lane cross-sections (as shown on **Figure A-1**), auxiliary lanes for vehicle movements are provided throughout the project corridor. These auxiliary lanes typically exist at both signalized and stop-controlled public street intersections for deceleration and acceleration movements, while some auxiliary lanes also serve accesses for private properties.

Although most public street intersections accommodate all vehicle movements, some public streets have restricted access. For example, Wheaton Drive is restricted to ¾ movements (i.e., left turn egress or crossing movements from Wheaton Drive are prohibited) while Innovation Drive and Gifford Court are restricted to only right turn movements.

Public street intersections have one or two left turn lanes for movements from Harmony Road onto intersecting public streets, with single left turn lanes into private access points. Exclusive right turn deceleration lanes exist at most intersections and right turn acceleration lanes are also available at some locations.

Public side street approaches to Harmony Road have several lane configurations from a single approach lane on Strauss Cabin Road that accommodates all movements, to single lanes for each movement, to approaches that have more than one through lane, shared left/through lanes, or dual left turn lanes.

Harmony Road ENHANCED TRAVEL CORRIDOR Alternatives Analysis



LEGEND

- 6 Through Lanes with Grass Median
- 6 Through Lanes with Raised Median
- 4 Through Lanes with Grass Median
- 4 Through Lanes with Painted Median
- 4 Through Lanes with Raised Median
- (X) Number of Through Lanes
- Cross-Section Locations (refer to Figures 4-6)
- Fort Collins City Boundary
- Timnath City Boundary
- Parks
- Planned Roads

NORTH

SOURCE: FHU, field verified

Figure A-1

Through Travel Lanes and Cross-Sections

Cross-Sections

A series of typical roadway cross-sections were recorded at approximately ½ mile intervals along the project corridor, typically between major signalized intersections. A total of 11 cross-sections are shown on **Figures A-2, A-3, and A-4**. These cross-sections have a variety of characteristics to serve the different land uses along the corridor. In the westernmost segment of the corridor, between Starflower Drive and Mason Street, the primary adjoining land use is residential. Proceeding east from Mason Street, retail, office and other commercial uses are mixed with the residential community, while existing farmland adjoins the corridor as you reach Lady Moon Drive near I-25.

The cross-sections shown on these figures were recorded at a specific location. Cross-section segments have some variability due to the potential of changing characteristics between specific locations within a particular segment. Some notable characteristics of the roadway cross-sections include:

Starflower Drive to South College Avenue

- Four-lane, curb & guttered cross-section
- Raised or striped center median
- Detached sidewalk with street-side tree lawn
- On-street bike lanes

South College Avenue to Timberline Road

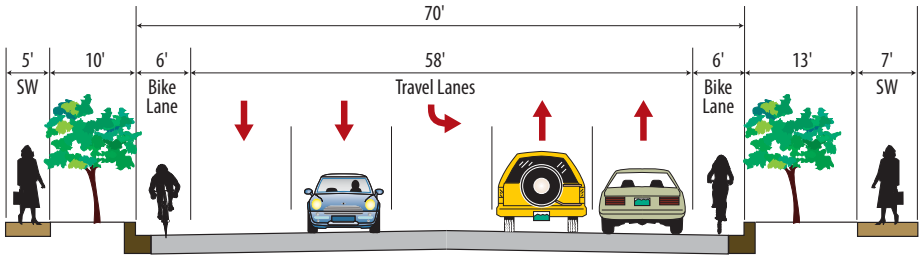
- Four-lane, curb & guttered or shouldered cross-section
- Raised or grass-depressed center median
- Detached, meandering sidewalk
- On-street bike lanes

Between the Union Pacific Railroad tracks and Timberline Road is the transition location between the four-lane and six-lane cross-sections of Harmony Road. The City of Fort Collins will be widening Harmony Road from four to six lanes between this location and Boardwalk Drive beginning in spring/summer of 2012.

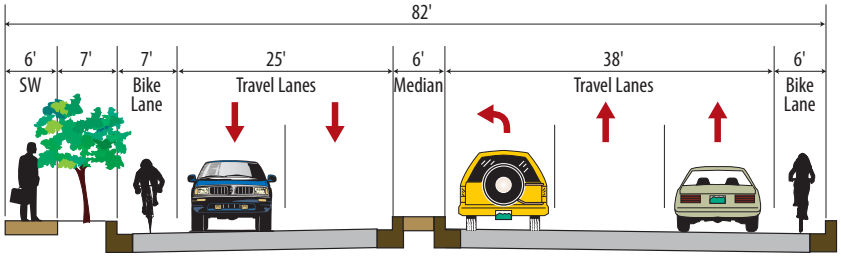
Timberline Road to I-25

- Six-lane, curb & guttered or shouldered cross-section
- Raised or grass-depressed center median
- Detached, meandering sidewalk or no sidewalk (typically adjacent undeveloped parcels)
- On-street bike lanes

The outside edges of the roadway sometimes include a separate shoulder area outside of the established bike lane.



A A Between Starflower Drive and Hinsdale Drive



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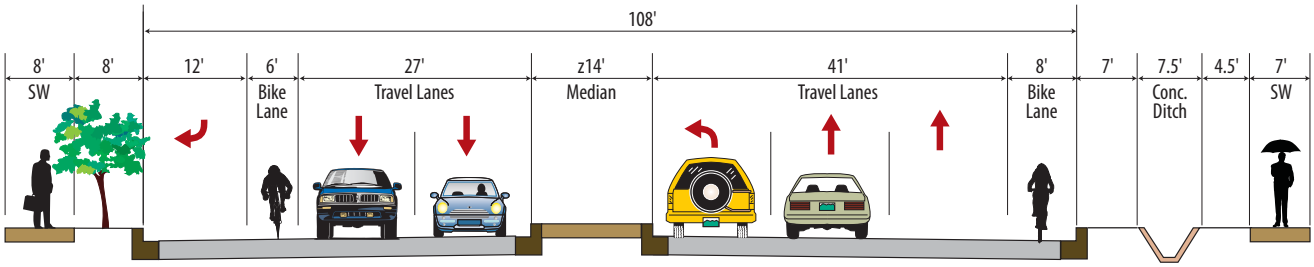
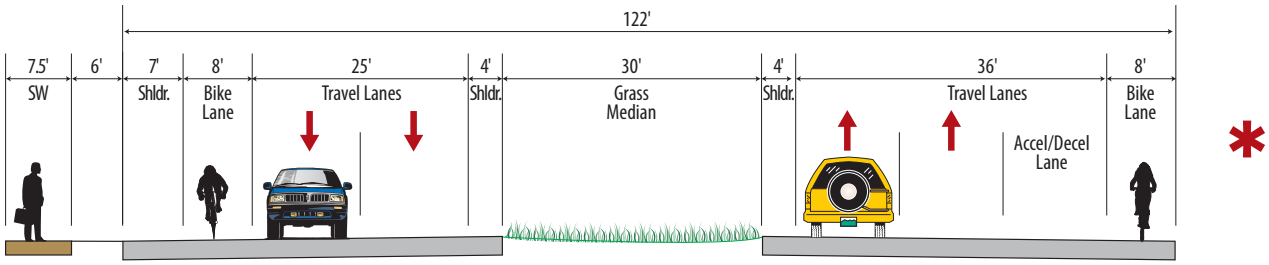
B B Between the BNSF Railroad and Mason Street



C C Between College Avenue and JFK Parkway



*

D D Between Boardwalk Drive and Lemay Avenue

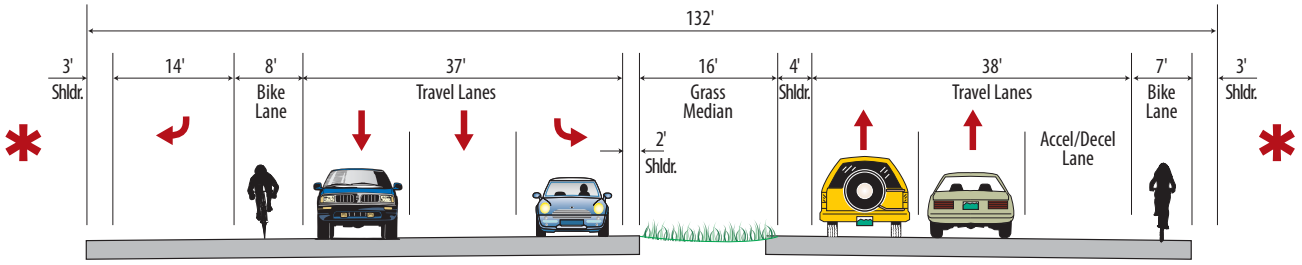
NOTE: The section from Boardwalk Dr. to Timberline Rd. will be widened to 6 lanes in the summer of 2012

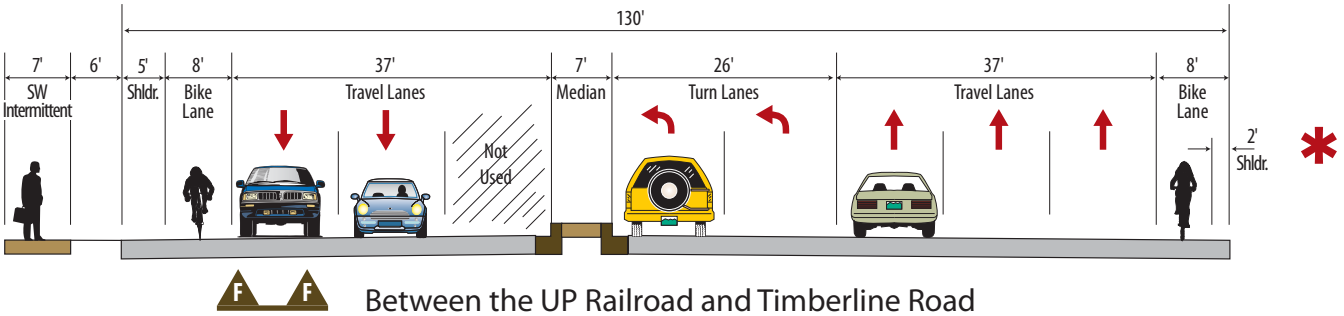
Figure A-2

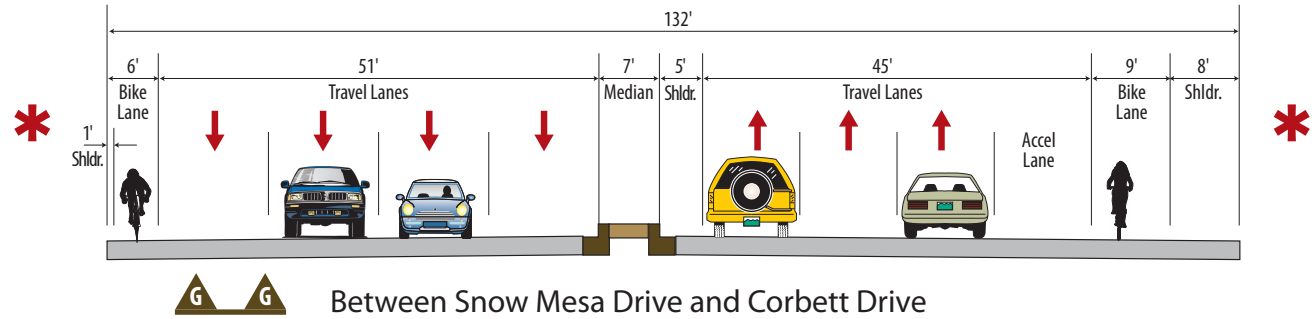
Existing Roadway Cross-Sections (facing East) Starflower Drive to Lemay Avenue

* *Detached meandering sidewalk exists beyond primary roadway footprint*

SOURCE: FHU, field verified







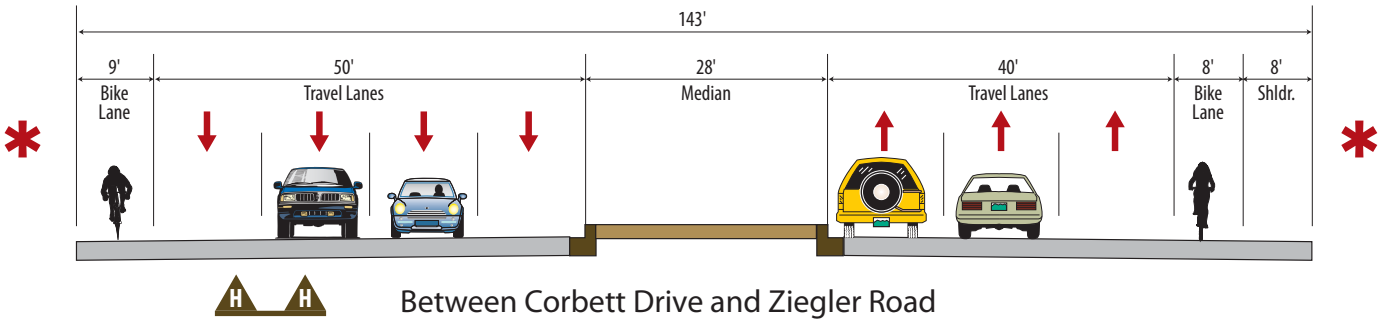
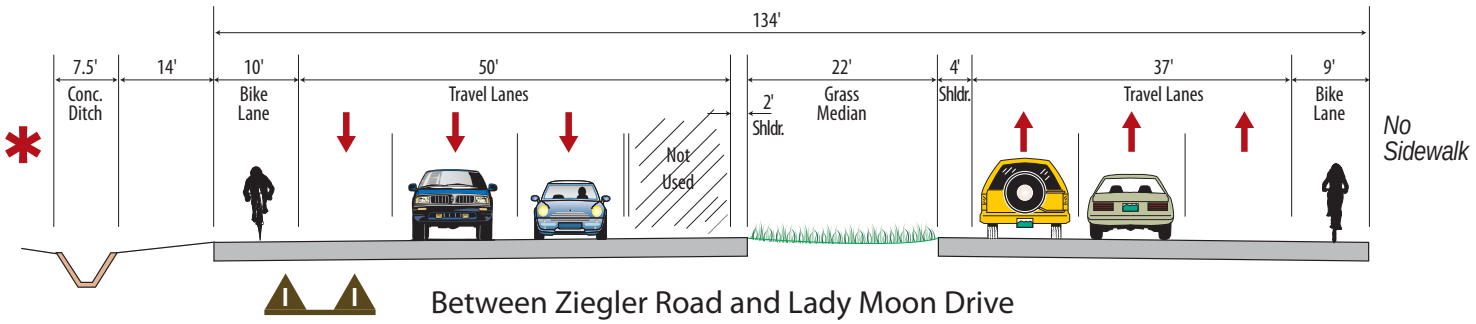


Figure A-3

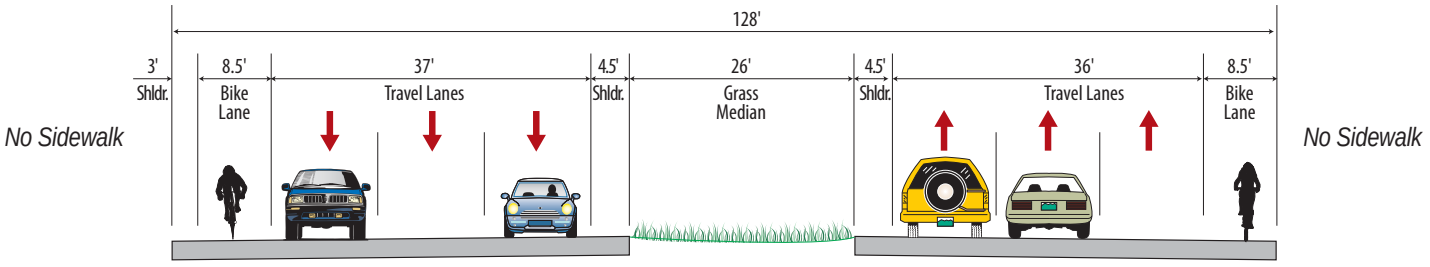
Existing Roadway Cross-Sections (facing East)
Wheaton Drive to Ziegler Road

* *Detached meandering sidewalk exists beyond primary roadway footprint*

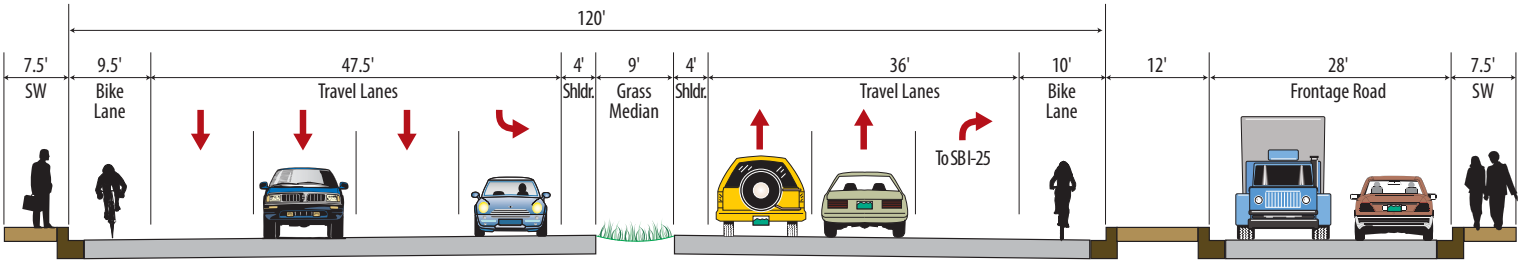
SOURCE: FHU, field verified



Between Ziegler Road and Lady Moon Drive



Between Cinquefoil Lane and Strauss Cabin Road



Between the Harmony Transfer Center and I-25

Figure A-4

Existing Roadway Cross-Sections (facing East) Ziegler Road to I-25

* *Detached meandering sidewalk exists beyond primary roadway footprint*

SOURCE: FHU, field verified

Drainage/Hydraulic Summary

Several projects along Harmony Road over the past four years include drainage reports for specific improvements undertaken as part of a roadway construction project. These reports have been summarized in a memorandum by a City consultant, dated February 9, 2012. This memorandum includes information on known project reports and references to several documents. A thorough review of these reports should be undertaken as the Harmony Road ETC moves into the Preliminary Engineering phase.

Of particular note, at several locations throughout the project corridor, a roadside concrete-lined ditch exists along both the north and south sides of Harmony Road. This ditch has a typical longitudinal alignment and is used for capturing roadside drainage and, at one time, for irrigation flows from the Larimer #2 Extension Ditch (specific to the south side of Harmony Road). Visual verification of the location of the concrete-lined ditch is somewhat sporadic at times and it appears that it has been conveyed to piping systems as parcels were redeveloped along the corridor. The locations of the visible concrete-lined ditches are:

- College Avenue to Boardwalk Drive: Sporadically along the south side of Harmony Road
- Timberline Road to Ziegler Road: Along the south side of Harmony Road; the ditch proceeds southward along the east side of Ziegler Road at this point, but continues along Harmony Road as a piped system then as an open, unlined channel
- Ziegler Road to Fossil Creek Reservoir Inlet: Along the north side of Harmony Road

The abandoned concrete-lined ditch on the south side of Harmony Road, just east of College Avenue.

The roadside ditch along the south side of Harmony Road just east of College Avenue is abandoned. The roadside ditches farther to the east are operational come initially from the Larimer County Canal No. 2 which feeds into Warren Lake. From Warren Lake it travels along the south side of the Collindale Golf Course as the Dixon Canyon Lateral, then south to the south side of Harmony Road to Ziegler, then south on Ziegler. There is a spur ditch that allows water to flow from the Dixon Canyon Lateral across Harmony Road to the west of Ziegler, then along the north side of Harmony Road adjacent to Hewlett-Packard.

Railroad

Vehicles queued at the BNSF Railway crossing on Harmony Road.

Two railroad lines cross the Harmony Road corridor. The BNSF Railway (BNSF) crosses Harmony Road approximately a quarter mile west of College Avenue. This crossing is at grade and includes advanced warning signs, a traffic signal (in conjunction with the Mason Trail pedestrian crossing), and approach gates (two each for eastbound and westbound travel lanes) with flashers and bells. The BNSF has as many as 15 train movements, with eight through trains per day. The existing traffic signal for the westbound railroad crossing will be relocated approximately 25 feet to the east with the construction of the Mason Corridor Bus Rapid Transit (BRT) project. This will allow for a 24-foot wide, two-lane, exclusive bus corridor parallel to, and east of, the BNSF tracks. The relocated signal pole will also be fitted with additional signals

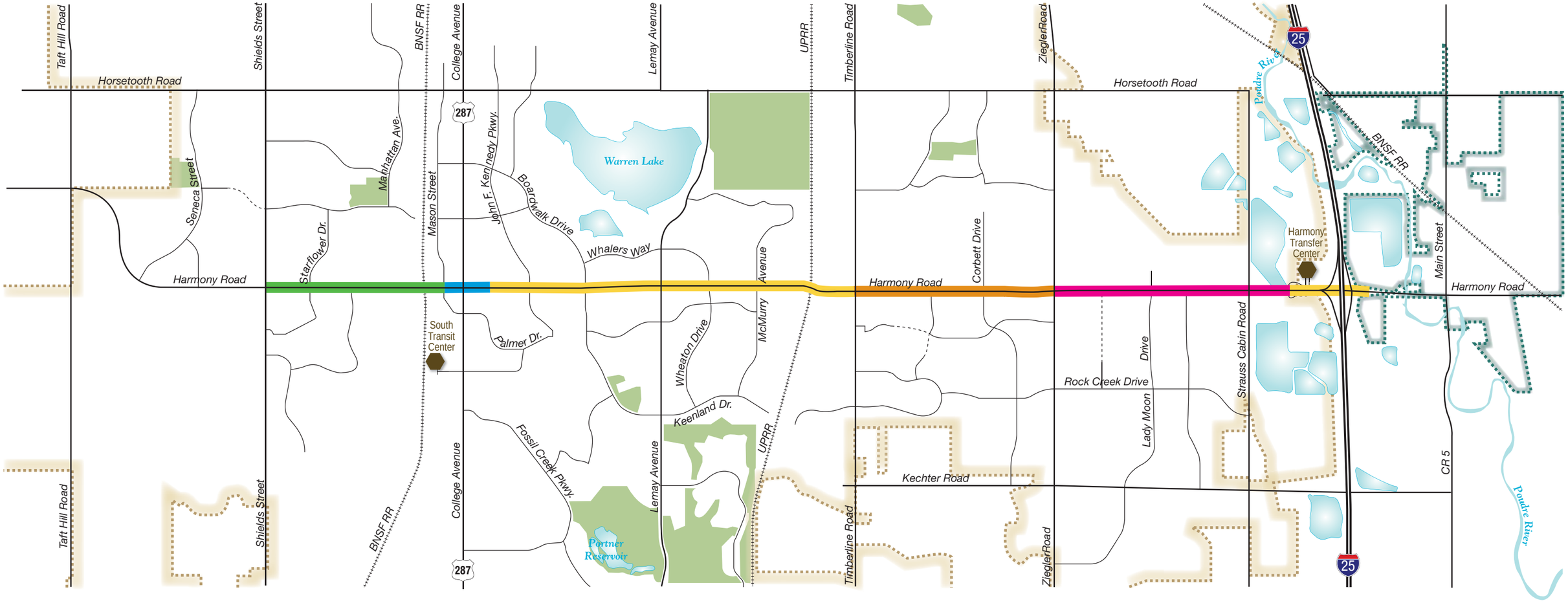
to control bus traffic along the BRT guideway. The Union Pacific Railroad (UPRR) crosses Harmony Road approximately a quarter mile west of Timberline Road. This crossing is also at grade and includes advanced warning signs and approach gates (two each for eastbound and westbound travel lanes) with flashers and bells. This UPRR line is used for up to two daily switching operation movements, with no daily through trains. The City of Fort Collins recently widened the cross-section of Harmony Road in 2012. These improvements added a lane in each direction of Harmony Road which were accommodated with the existing UPRR crossing equipment.

Traffic Operations

The information contained in this section summarizes traffic operational characteristics along the study corridor.

Posted Speeds

The posted speed limits along Harmony Road vary, with slower posted speeds (35 – 45 miles per hour [mph]) in the western segments of the corridor and higher posted speeds (45 – 55 mph) in the eastern segments. Posted speeds are shown on **Figure A-5**.



LEGEND

- 35 mph
- 40 mph
- 45 mph
- 50 mph
- 55 mph
- Fort Collins City Boundary
- Timnath City Boundary
- Parks
- Planned Roads

NORTH

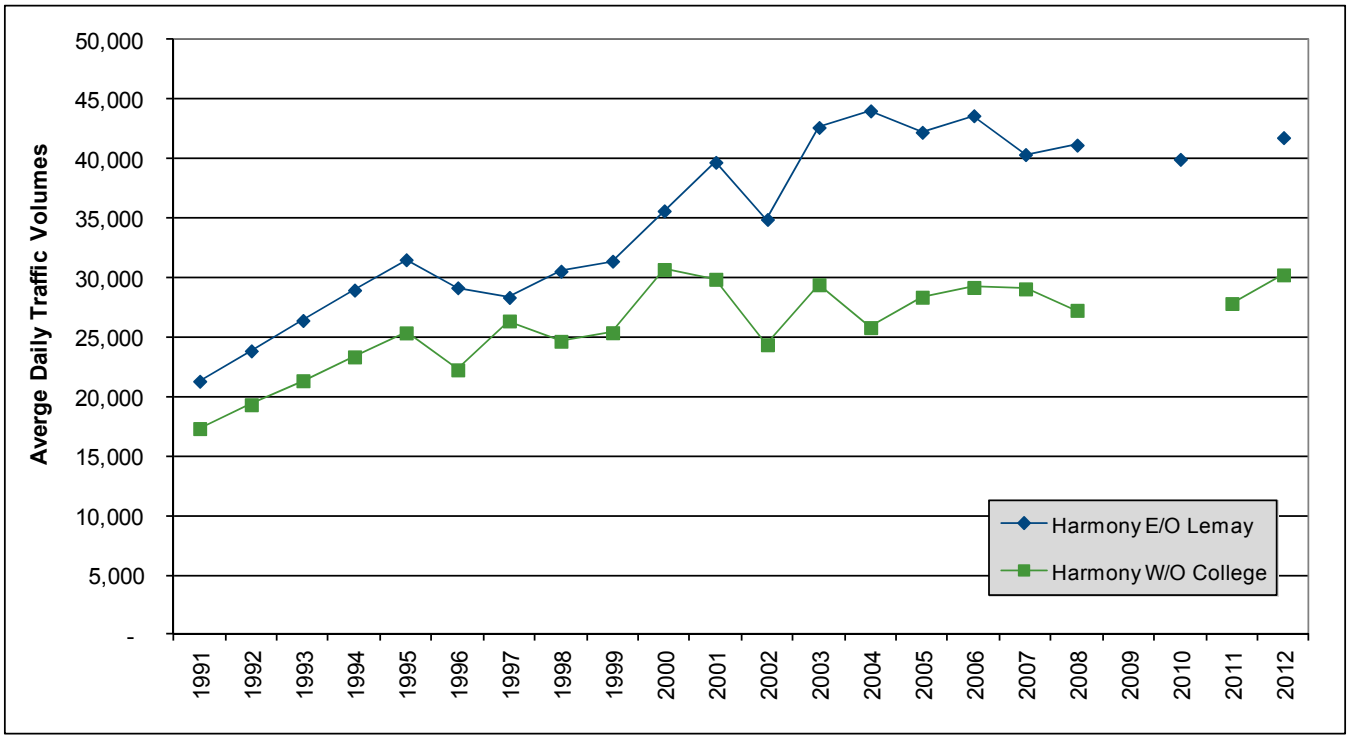
SOURCE: FHU, field verified

Figure tA-5
Posted Speeds

Traffic Volumes

Over the past two decades, Harmony Road has experienced considerable growth in traffic volumes. **Figure A-6** shows the historical daily traffic volumes from 1991 through 2012 at two locations along the corridor: east of Lemay Avenue and west of College Avenue. East of Lemay, daily traffic volumes have approximately doubled between 1991 and 2012 (representing a 3.3 percent average annual growth rate), with the highest volumes having occurred in 2003 – 2006. The traffic on Harmony Road west of College Avenue has increased at a slightly slower pace with an average annual growth rate of 2.7 percent.

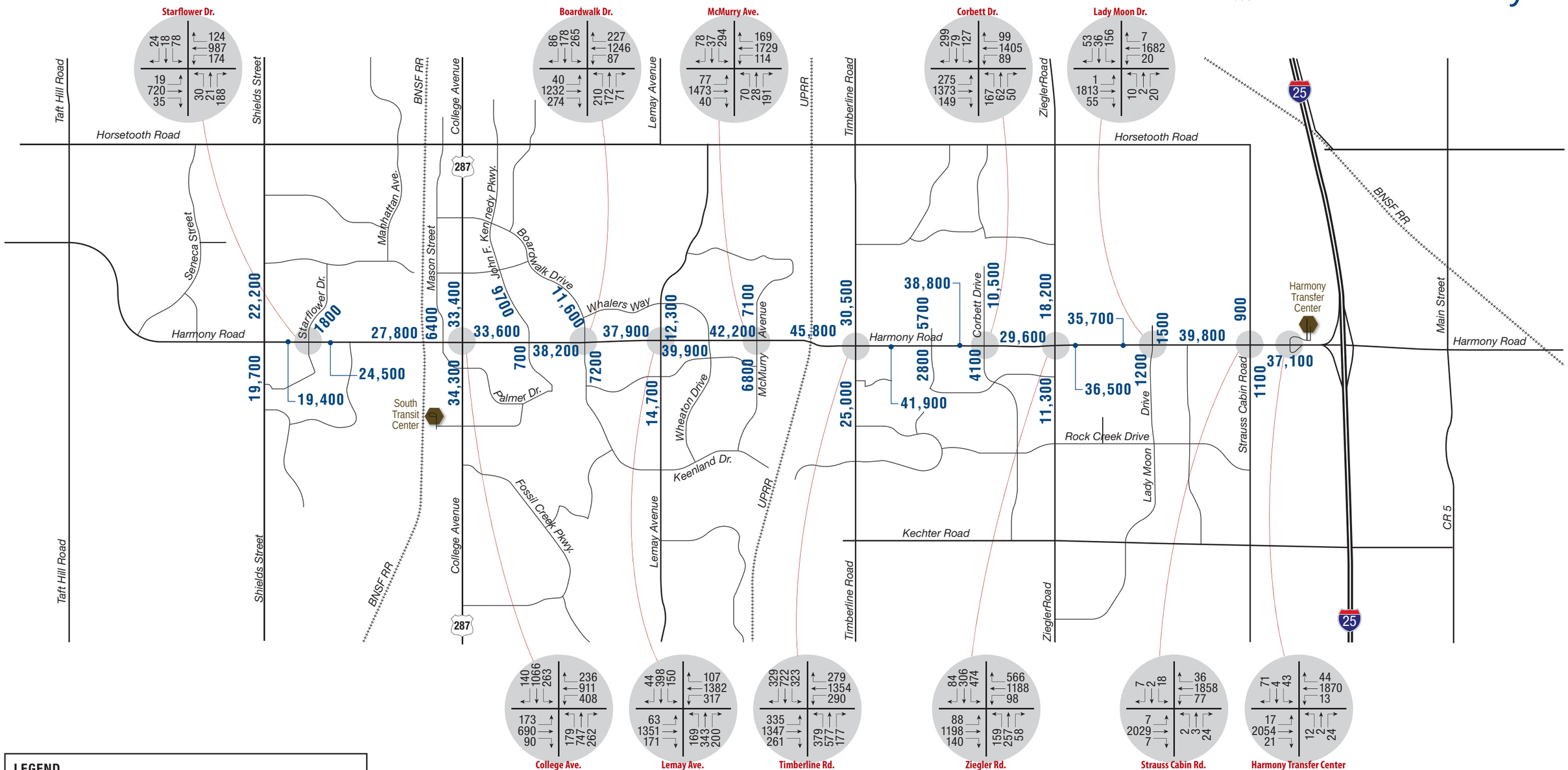
Figure A-6. Historical Traffic Volumes



The existing daily traffic volumes along Harmony Road range from approximately 19,400 vpd on the west end of the corridor near Starflower Drive to 45,800 vpd just west of Timberline Road. Daily traffic volumes near I-25 are approximately 37,100 vpd. The daily traffic volumes for Harmony Road as well as the side street approaches can be seen on **Figure 9**. Harmony Road and College Avenue (US 287) carry the highest levels of traffic volumes through the City of Fort Collins. Daily volumes on College Avenue range from 25,000 vpd through Old Town up to 40,000-46,000 vpd between Horsetooth Road and Prospect Road. College Avenue carries 30,000-35,000 vpd in the vicinity of Harmony Road. The next highest traffic volume road in the City is Mulberry, which carries upward of 36,000 vpd near Lemay Avenue.

The traffic volumes for the PM Peak hour are also shown on **Figure A-7**. They represent intersection movements collected between 2010 and 2012 by the City of Fort Collins. Of note, not all of the intersections along Harmony Road are included in this study. The intersections included in this report are typically signalized intersections (all except one) and they are located approximately every ½ mile.

Harmony Road ENHANCED TRAVEL CORRIDOR Alternatives Analysis



LEGEND

XXX PM Peak Hour (4:30-5:30 PM) Traffic Volumes (2010-2012)

XXXX Daily Traffic Volumes (2010-2012)

NORTH

SOURCE: City of Fort Collins, 2010-2012

Figure A-7

Existing Traffic Volumes

In general, the peak travel direction on Harmony Road during the afternoon peak hour is in the westbound direction. However, on the segment from Ziegler Road to the east, the PM peak pattern is more oriented in the eastbound direction toward I-25.

While movements through an intersection vary by location and by the number of through lanes, there are a few turning movements that experience relatively high levels of volume during the PM peak hour:

- South College Avenue – westbound left turn (~ 400 vph)
- Lemay Avenue – westbound left turn (~ 315 vph)
- Timberline Road – several exceeding 300 vph
- Ziegler Road – southbound left turn (~475 vph) & westbound right turn (~ 565 vph)

I-25 Travel Pattern Influence

Interstate 25 (I-25) provides the interstate travel route between the cities of Denver and Cheyenne (and points beyond). I-25 also serves as a main route for shorter trips between nearby communities and commute-type trips between the employment centers along Harmony Road and other communities, potentially extending to the Denver metropolitan area.

To understand the travel pattern influence that I-25 has with daily traffic along Harmony Road, the *North I-25 Environmental Impact Statement* was consulted. As can be seen on **Figures A-8 and A-9**, the majority of existing and future traffic along Harmony Road is oriented to/from the south towards Denver. As northern Colorado grows, and as development patterns change over time, movements to/from the north are expected to become a larger component of total traffic that proceeds through this interchange. Movements to/from the Town of Timnath are expected to remain relatively consistent.

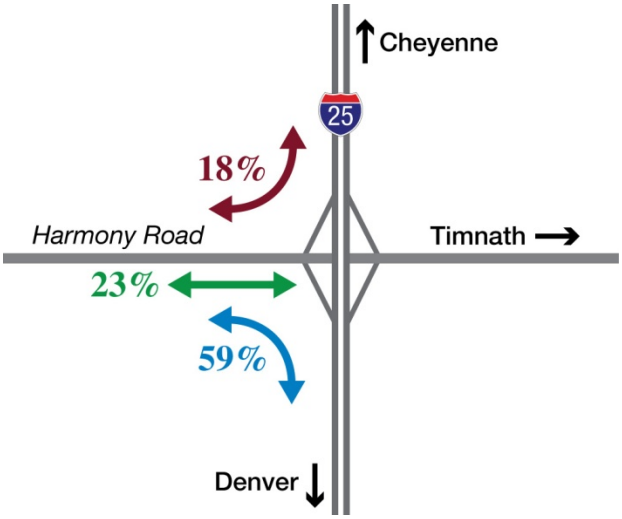


Figure A-8. Existing Travel Patterns at I-25

(Source: North I-25 EIS)

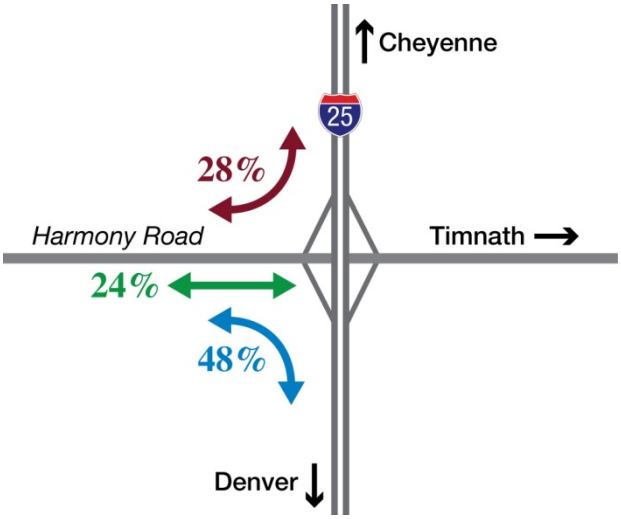


Figure A-9. 2035 Travel Patterns at I-25

(Source: North I-25 EIS)

Intersection Geometry and Operational Analysis

Figure A-10 shows the lane geometry for existing conditions and also PM peak hour levels of service (LOS) at the studied intersections along Harmony Road. As previously noted, not all intersections along Harmony Road have been evaluated in this study. In general, the intersections included in this study are the major intersections along the corridor and are located approximately every ½ mile. Nearly all of the intersections included in this study are currently signalized with the exception of Strauss Cabin Road. The traffic signal timing utilized in the level of service analyses was provided by the City of Fort Collins and CDOT and the intersection lane geometry was field verified. As shown on **Figure A-10,** the majority of the signalized intersections operate at LOS D or better during the PM Peak hour. The only exceptions are the intersections with South College Avenue and Timberline Road, where traffic volume levels indicate that sufficient vehicle delay is experienced to reach LOS E criteria during the PM peak hour. In addition, the side street approaches at the stop controlled intersection at Strauss Cabin Road are shown to operate at LOS F. However, even though the vehicle delays are high for the side street, the vehicle queues are not long due to the low side street volume.

Crash Data Analysis

Crash data was provided by the City of Fort Collins and was also obtained from CDOT's crash statistic database for each public intersection along the Harmony Road corridor from Shields Street to the Harmony Transfer Center; these data also include mid-block crashes. The crash data represent the five-year period from January 2007 through December 2011. During that time, there were a total of 1,679 reported crashes at the intersections along Harmony Road and 122 mid-block crashes between Shields Street and Lady Moon Drive. **Table A-2** shows the number of crashes in each year. The number of crashes in the corridor remained relatively flat between 2007 and 2010, but there was a nearly 12 percent increase in crashes between 2010 and 2011. **Figure A-11** shows the distribution of the reported crashes based on severity.

Table A-2. Corridor Crashes by Year

Year	Intersections	Mid Block	Total	% Change from Previous Year
2007	331	24	355	
2008	323	37	360	+1.4%
2009	332	17	349	-3.1%
2010	330	18	348	-0.2%
2011	363	26	389	+11.8%
Totals	**1679**	**122**	**1801**	

Harmony Road ENHANCED TRAVEL CORRIDOR Alternatives Analysis

NOTE: The section from Boardwalk Dr. to Timberline Rd. will be widened to 6 lanes in the summer of 2012

LEGEND

- X PM Peak Hour Level of Service
- Stop Sign
- Traffic Signal

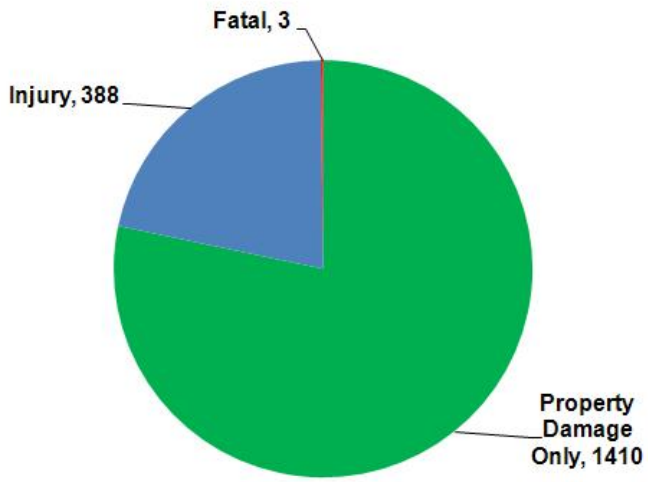
NORTH

SOURCE: City of Fort Collins, FHU

Figure A-10

Existing Intersection Geometry and Levels of Service

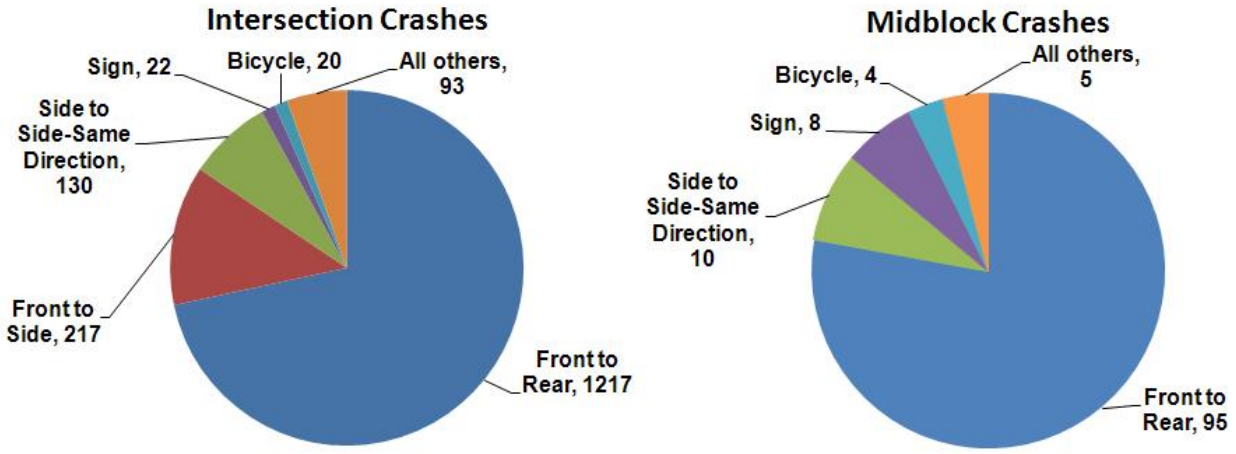
Figure A-11. Corridor Crash Severity (2007 – 2011)



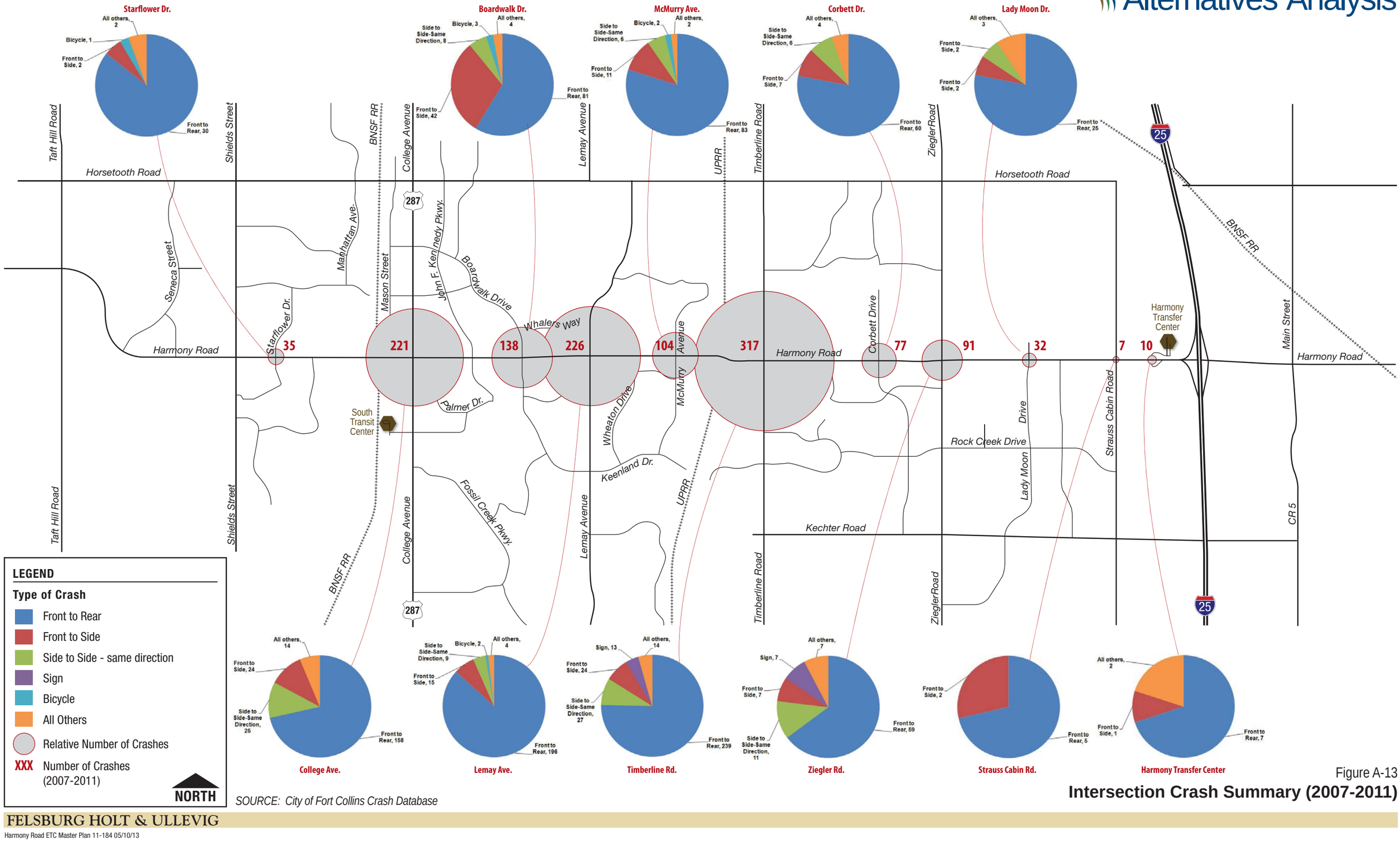
Nearly 80 percent of the crashes that occurred along the corridor were property damage crashes, while the remaining 20 percent were injury crashes. There were a total of three fatal crashes during the five-year period. Two were front-to-side crashes (i.e., broadside or approach turn type); one occurred at Lady Moon Drive and the other at Snow Mesa Drive. The third fatal crash occurred at Stover Street and involved a pedestrian.

Figure A-12 shows a graphical representation of the intersection and mid-block crash types for this corridor. **Figure A-13** shows the intersection specific crash type distributions for the eleven study intersections.

Figure A-12. Corridor Crash Type Distributions (2007 – 2011)



Harmony Road ENHANCED TRAVEL CORRIDOR Alternatives Analysis



SOURCE: City of Fort Collins Crash Database

Figure A-13

Intersection Crash Summary (2007-2011)

As can be seen on this figure, as well as on the intersection-specific charts on **Figure A-13**, front to rear (rear-end) type crashes comprise 60 to 75 percent of the crashes along the corridor. Front to side crashes, which include broadside and approach turn crashes, as well as sideswipe crashes (same direction crashes), are the second and third most frequent crash types along the corridor.

The crash history for each intersection and mid-block segment was reviewed in more detail to identify potential hot spots or crash types in need of correction. Direct diagnostic methods developed by CDOT were used in this analysis. Direct diagnostics is a method by which the crash occurrence and patterns at a given location on the corridor are compared to a table of averages developed by the CDOT Safety and Traffic Engineering Branch for similar 4- or 6-lane arterial intersections and facilities across Colorado. For example, the crash occurrence at the intersection of Timberline Road and Harmony Road was compared to the CDOT developed diagnostic table for an Urban 6 Lane Divided Signalized 4 leg intersection to determine which crash types are occurring at a higher frequency than a typical 6 lane urban signalized intersection. This same comparative method was applied to the other intersections along the corridor.

Table A-3 shows the breakdown of the severity patterns by intersection and by mid-block segments for the crashes recorded along the corridor. The locations are listed in descending order of the total number of crashes.

The following provides a summary of the data presented in **Table A-3** and a review of the crash patterns along the Harmony Road corridor shown on **Figures A-12 and A-13**.

- Overall, the proportion of injury / fatal crashes along Harmony Road is generally better than expected when compared to similar arterial facilities. On most four or six lane arterials, the injury / fatal percent of total is 30 percent on average. There are two intersections (Snow Mesa Drive and Crest Road) and one segment (McMurry Avenue to Timberline Road) above that threshold (see **Table A-3**).
- The frequency of rear-end crashes is higher than normal throughout the corridor. Rear end type crashes are the crash type that is in need of correction at nearly every intersection along the Harmony Road corridor. In general, rear end type crashes should comprise approximately 45 to 50 percent of the crash total at a signalized intersection on an arterial. The rear end crash occurrence at all of the intersections along Harmony Road exceeds 50 percent and several exceed 75 percent.
- The frequency of bicycle related crashes is higher than normal at the Shields Street intersection. However, overall the corridor has a very low occurrence of pedestrian crashes (0.3%) and bike crashes (1.2%). These totals are both better than expected for a four or six lane arterial which typically have bike and pedestrian crash proportions around 1.5 percent.
- The occurrence of crashes involving signs is higher than expected at Timberline Road (3.6 percent) and Ziegler Road (7.1 percent). The typical occurrence at an urban intersection is around 0.5 percent.
- The occurrence of sideswipe (same direction) crashes is higher than expected at six of the intersections along the corridor. These include Shields Street, Mason Street, College Avenue, John F Kennedy Parkway, Lemay Avenue, and Gifford Court. The typical proportion of sideswipe (same direction) type crashes is around 8 percent for urban intersections. These six locations exceed that proportion.
- As previously mentioned, there were three fatal crashes along the corridor during the five-year study period. Two were front to side crashes; one occurred at Lady Moon Drive and the other at Snow Mesa Drive. The other fatal crash occurred at Stover Street and involved a pedestrian.

Table A-3. Detailed Crash Data (2007 – 2011)

Location	Description	PDO Crashes	Injury Crashes	Fatal Crashes	Total Crashes	% Injury / Fatal
Timberline Road	Study intersection	254	63	0	317	19.9%
Lemay Avenue	Study intersection	166	60	0	226	26.5%
College Avenue	Study intersection	182	39	0	221	17.6%
Boardwalk Drive	Study intersection	105	33	0	138	23.9%
Shields Street	Other public intersection	94	25	0	119	21.0%
McMurry Avenue	Study intersection	81	23	0	104	22.1%
Ziegler Road	Study intersection	77	14	0	91	15.4%
Mason Street	Other public intersection	67	18	0	85	21.2%
Corbett Drive	Study intersection	59	18	0	77	23.4%
Snow Mesa Drive	Other public intersection	50	23	1	74	32.4%*
John F. Kennedy Pkwy	Other public intersection	50	13	0	63	20.6%
McMurry to Timberline	Mid-block	24	14	0	38	36.8%*
Starflower Drive	Study intersection	27	8	0	35	22.9%
Wheaton Drive	Other public intersection	29	5	0	34	14.7%
Lady Moon Drive	Study intersection	26	5	1	32	18.8%
Lemay to McMurry	Mid-block	15	5	0	20	25.0%
Hinsdale Drive	Other public intersection	16	1	0	17	5.9%
Starflower to College	Mid-block	12	5	0	17	29.4%
Timberline to Corbett	Mid-block	11	3	0	14	21.4%
Shields to Starflower	Mid-block	9	2	0	11	18.2%
Innovation Drive	Other public intersection	9	1	0	10	10.0%
Harmony Transfer Center	Study intersection	9	1	0	10	10.0%
College to Boardwalk	Mid-block	7	2	0	9	22.2%
Boardwalk to Lemay	Mid-block	7	2	0	9	22.2%
Crest Road	Other public intersection	5	3	0	8	37.5%*
Strauss Cabin Road	Study intersection	6	1	0	7	14.3%
Stover Street	Other public intersection	5	0	1	6	16.7%
Ziegler to Lady Moon	Mid-block	3	1	0	4	25.0%
Gifford Court	Other public intersection	3	0	0	3	0.0%
Mason Trail Crossing	Other public intersection	2	0	0	2	0.0%
Corbett to Ziegler	Mid-block	0	0	0	0	0.0%

** Higher than Expected Severe Frequency*

These crash totals and patterns along Harmony Road were also compared to citywide crash data. The City of Fort Collins closely monitors traffic safety and annually prepares safety summary reports that provide detail on the crash trends throughout Fort Collins. The most recent *Traffic Safety Summary* report was released in June 2011 and includes crash data through the end of 2010. Section 3 of that report provides several figures and a table that summarize the high crash locations within the City. Information from this summary report was used to compare the crash experience along the Harmony Road corridor to the other arterial corridors within Fort Collins.

In general, several of the intersections along the Harmony Road corridor experience some of the higher crash totals in the City as seen in Table 6 beginning on page 33 of the City crash summary report. In fact, the top two intersections with the highest crash totals in the City are the Harmony Road intersections with Timberline Road and with Lemay Avenue. Based on a review of the top 50 intersections for overall crash totals, there are seven intersections along Harmony Road that fall within the top 50. Prospect Road also has seven intersections within the top 50. However, the highest crash corridor within the City appears to be the College Avenue corridor as it has the most intersections (13) in the top 50. Based on this, the Harmony Road corridor is not the worst overall corridor when compared to other corridors in the City. However, Harmony Road does have a few intersections (Timberline (#1), Lemay (#2) and College (#10)) that rank among the worst crash locations in the City and based on the crash patterns observed, should be addressed in an effort to reduce the number of crashes along the corridor.

Transit Service

Existing Network

Transfort, operated by the City of Fort Collins, provides local fixed route bus and paratransit services within the City and will provide bus rapid transit (BRT) along the Mason Corridor in 2014. Transfort's mission is to provide "exceptional, customer-focused service that meets our community's present and future transit needs." The *Transfort Strategic Operating Plan* (TSOP) further defines Transfort's vision by stating their "service philosophy focuses on productivity, meaning that bus routes focus on areas with higher ridership potential, as opposed to dispersed coverage."

A Transfort bus equipped with bike racks.

Transfort's current bus network generally operates between 6:30am to 6:30pm and includes 16 year-round fixed routes and four seasonal routes that operate when Colorado State University (CSU) and the Poudre School District (PSD) are in session. Two of the seasonal routes provide service until 10:00pm Monday – Saturday and beginning January 2012, Transfort, the Associated Students of CSU (ASCSU) and the City's Police Department collaborated to provide a pilot evening bus service from downtown to some of the more heavily populated student housing areas of town between the hours of 11:30pm and 2:30am on Friday and Saturday nights.

The existing network has two Transit Centers, one located downtown and the other at CSU and the Mall Transfer Point (MTP) acts as the southern transfer connection. In 2014, a new South Transit Center (STC) will be completed, replacing the MTP, and will act as the terminus of the Mason Corridor BRT line. All existing routes, with the exception of the pilot night service routes and Route 17, connect to at least one of the three existing transfer points.

Transit Ridership

Since 2003, Transfort has experienced a nearly 50 percent increase in annual ridership. The ridership has increased by approximately six percent each year since 2009, bringing 2011's total ridership to 2.15 million, as shown in **Table A-4**.

Table A-4. Annual Transit Ridership

	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total Passengers	1,504,683	1,418,102	1,481,472	1,479,241	1,641,407	1,884,197	1,904,229	2,034,195	2,156,775
Percent Change from Previous Year	1.79%	-6.11%	4.28%	-0.15%	9.88%	12.89%	1.05%	6.39%	5.68%

Of that total 2011 ridership, students are the largest user group with 48% of total ridership (34% CSU and 14% PSD). This is reflected by Transfort's seasonal scheduling and route configuration. Most routes serve PSD and CSU facilities, which are a major part of Transfort's operating philosophy of serving activity centers to maximize ridership potential. In addition to PSD and CSU facilities, other major activity centers that are served include:

- Downtown Fort Collins
- Foothills Mall
- Front Range Community College
- Government offices
- Large employment campuses, such as Hewlett-Packard and PVH campuses
- Shopping centers such as Walmart, Target, and grocery stores
- CSU main campus and Vet School
- PSD schools (High Schools and Middle Schools)

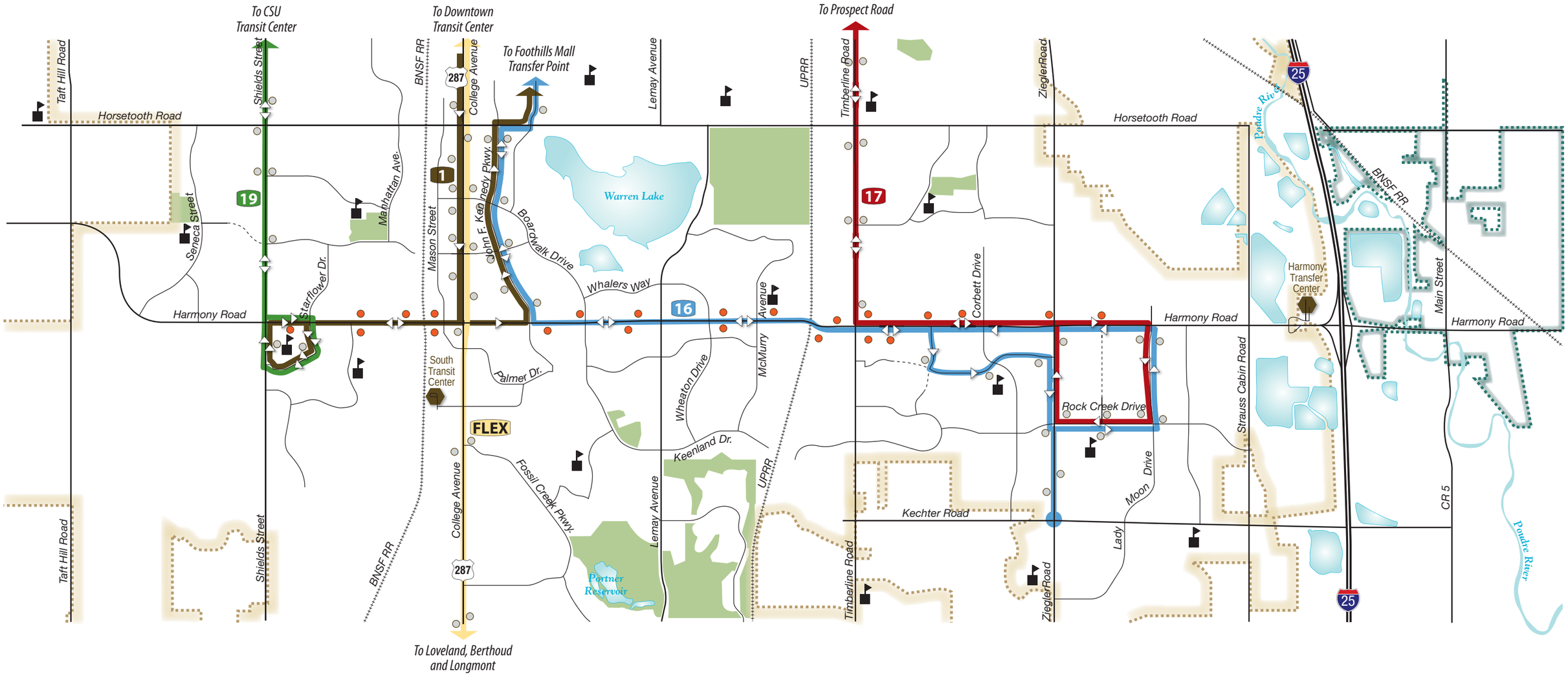
Harmony Road Routes as of January 2012

As of January 2012, Transfort has three routes that provide service along the Harmony Road corridor, Routes 1, 16 and 17. Routes 1 and 17 are primarily north/south oriented except for the portion of the route serving the Harmony Road area. Route 16 generally runs east/west between the MTP and Fossil Ridge High School, southeast of Harmony and Ziegler Roads. Route 19 and the regional route FLEX provide north/south connections from the corridor but no service along the corridor. **Figure A-14** illustrates the bus routes that serve the Harmony Road corridor and the stops on those routes within the study area.

A typical Transfort bus stop with shelter and bench on Harmony Rd.

A boarding/alighting survey was done for the routes with east-west service on Harmony Road (Routes 1, 16 and 17) in 2012. **Table A-5** provides a comparison of the 2012 daily ridership on these three routes to the ridership recorded in 2008. All ridership numbers presented in **Table A-5** were collected while CSU was in session; when CSU is not in session, the ridership numbers all three routes are slightly lower. Although weekday ridership on Route 16 decreased between 2008 and 2012, overall ridership for the three routes combined increased nearly nine percent on weekdays and nearly 12% on Saturdays. While Route 17 has the lowest daily ridership of the three routes, it experienced the highest percent increase in ridership between 2008 and 2012.

Harmony Road ENHANCED TRAVEL CORRIDOR Alternatives Analysis



LEGEND

- Bus Stops on Harmony Road
- Other Bus Stops
- XX Route Designation
- Schools
- Fort Collins City Boundary
- Timnath City Boundary
- Parks
- Planned Roads

NORTH

SOURCES: *Transfort, 2012, City of Fort Collins GIS data set (schools)*

Figure A-14

Existing Transit Service

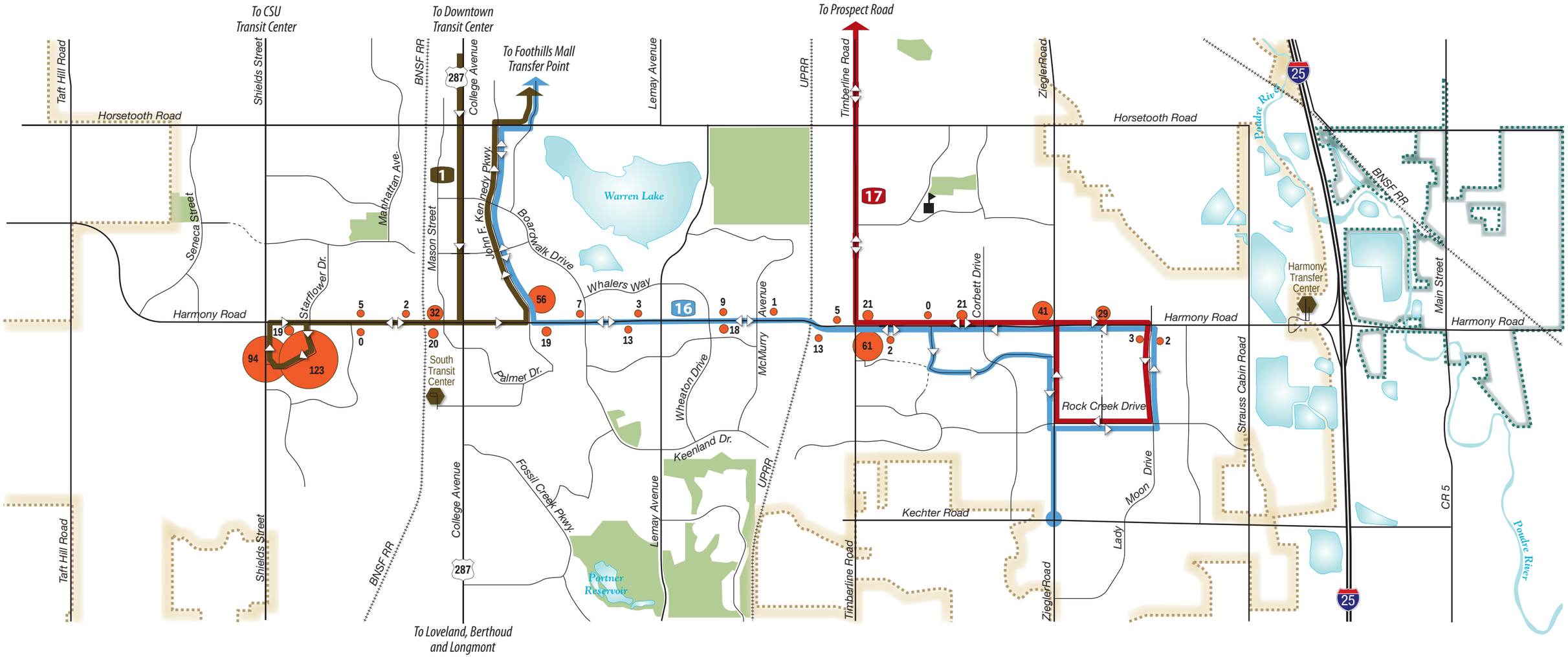
Table A-5. Harmony Route Daily Ridership Comparison (2008 and 2012)

	Weekday			Saturday		
	2008 Daily Ridership	2012 Daily Ridership	% Change (2008 to 2012)	2008 Daily Ridership	2012 Daily Ridership	% Change (2008 to 2012)
Route 1	1071	1149	*+7.3%*	799	831	*+4.0%*
Route 16	292	277	*-5.1%*	117	177	*+51.3%*
Route 17	93	158	*+69.9%*	60	84	*+40.0%*
Total	**1456**	**1584**	***+8.8%***	**976**	**1092**	***+11.9%***

The weekday daily boardings and alightings for each of stops along Harmony Road are shown on **Figure A-15**. The highest concentration of transit boardings/alightings in the corridor is in the vicinity of Harmony Road/Shields Street, at the Front Range Community College. Other stops with relatively high numbers of boardings/alightings include the stops east of Timberline Road, near John F. Kennedy Parkway, and in the vicinity of Ziegler Road near the major employment centers (Hewlett Packard and Intel Corporation).

The following are descriptions of the four Transfort routes and the FLEX route that serve the Harmony Road corridor. Additional details for Routes 1, 16, and 17 are provided based on the 2012 survey and on year end data.

Harmony Road ENHANCED TRAVEL CORRIDOR Alternatives Analysis



LEGEND

- XX — Relative Number of Daily Weekday Boardings and Alightings on Routes 1, 16, and 17
- XX — Route Designation
- Fort Collins City Boundary
- Timnath City Boundary
- Parks
- Planned Roads

NORTH

SOURCES: *Transfort, 2012, February 2012 Ridership Survey*

Figure A-15

Transit Boardings and Alightings

Route 1 – provides north/south service between the Downtown Transit Center, CSU, Foothills Mall transfer point, and Front Range Community College via College Avenue and Harmony Road. Buses run every 20 minutes year-round, Monday through Saturday from 6:18am to 7:26pm. Route 1 service descriptions and performance metrics are summarized in **Table A-6**.

Table A-6. Route 1 Service

Transfer Centers	*Major Destinations*
Downtown Transit Center	Downtown Fort Collins
Mall Transfer Point	Colorado State University
	Foothills Mall (Mall Transfer Point)
	Front Range Community College

Current Operations & Service Requirements (February 2012)				
	CSU In - Session		**CSU Out of Session**	
	Weekday	**Saturday**	**Weekday**	**Saturday**
Hours of Operation:	6:18 am - 7:27 pm	6:18 am - 7:27 pm	6:18 am - 7:27 pm	6:18 am - 7:27 pm
Frequency (min):	20	20	20	20
**Cycle Time(min):	80	80	80	80
Layover Time (min):	10	10	10	10
Total One-Way Trips:	76	76	76	76
Daily Rev-Hours:	50	50	50	50
Daily Rev-Miles:	559	559	559	559
Peak Buses:	4	4	4	4
FY 2011 Route Service Productivity				
	CSU In - Session		**CSU Out of Session**	
	Weekday	**Saturday**	**Weekday**	**Saturday**
Avg. Daily Boardings:	1149	831	1079	759
Pass./Rev Veh.-Hr:	23.0	16.6	21.6	15.2
Pass./Rev Veh.-Mi:	2.1	1.5	1.9	1.4
Pass./Trip:	15.1	10.9	14.2	10.0

Route 16 – provides a generally east/west service between the MTP and the PSD schools near the Fossil Ridge neighborhood, including stops along Harmony Road for shopping and office activity centers between College Avenue and Lady Moon Drive. Buses run every 60 minutes year-round, Monday through Saturday from 6:17am to 6:46pm. Route 16 service descriptions and performance metrics are summarized in **Table A-7**.

Table A-7. Route 16 Service

Transfer Centers	*Major Destinations*
Mall Transfer Point	Foothills Mall (Mall Transfer Point)
	Poudre Valley Hospital Harmony Campus
	Preston Middle School
	Fossil Ridge High School

Current Operations & Service Requirements (February 2012)				
	CSU In - Session		**CSU Out of Session**	
	Weekday	**Saturday**	**Weekday**	**Saturday**
Hours of Operation:	60	60	60	60
Frequency (min):	60	60	60	60
**Cycle Time(min):	15	15	15	15
Layover Time (min):	25	25	25	25
Total One-Way Trips:	12	12	12	12
Daily Rev-Hours:	155	155	155	155
Daily Rev-Miles:	1	1	1	1
Peak Buses:	60	60	60	60

The Route 16 is interlined with the Route 6 for a combined cycle time of 120 minutes with 23 minutes of layover

FY 2011 Route Service Productivity				
	CSU In - Session		**CSU Out of Session**	
	Weekday	**Saturday**	**Weekday**	**Saturday**
Avg. Daily Boardings:	277	177	244	168
Pass./Rev Veh.-Hr:	22.9	14.6	20.2	13.9
Pass./Rev Veh.-Mi:	1.8	1.1	1.6	1.1
Pass./Trip:	11.1	7.1	9.8	6.7

Route 17 – provides north/south service between office parks and Larimer County government offices at the southeast corner of Prospect and Timberline Roads, to the area just north of Fossil Ridge High School. The route primarily follows Timberline Road, providing additional access to technology, education, and health campuses on Timberline and Harmony Roads. Buses run every 60 minutes year-round, Monday through Saturday from 6:39am to 7:37pm. Route 17 service descriptions and performance metrics are summarized in **Table A-8**.

Table A-8. Route 17 Service

Transfer Centers	*Major Destinations*
None	Larimer County Detention Center
	Larimer County Human Services
	City of Fort Collins Police Department
	King Soopers at Timberline and Drake
	Rigden Farm Senior Living
	Fort Collins HS / Preston MS
	PVH Harmony Campus
	AMD/Avago/HP/Intel
	Front Range Village Shopping Center

Current Operations & Service Requirements (February 2012)				
	CSU In - Session		**CSU Out of Session**	
	Weekday	**Saturday**	**Weekday**	**Saturday**
Hours of Operation:	6:39 am - 7:37 pm	6:39 am - 7:37 pm	6:39 am - 7:37 pm	6:39 am - 7:37 pm
Frequency (min):	60	60	60	60
**Cycle Time(min):	60	60	60	60
Layover Time (min):	27	27	27	27
Total One-Way Trips:	26	26	26	26
Daily Rev-Hours:	9	9	9	9
Daily Rev-Miles:	157	157	157	157
Peak Buses:	1	1	1	1

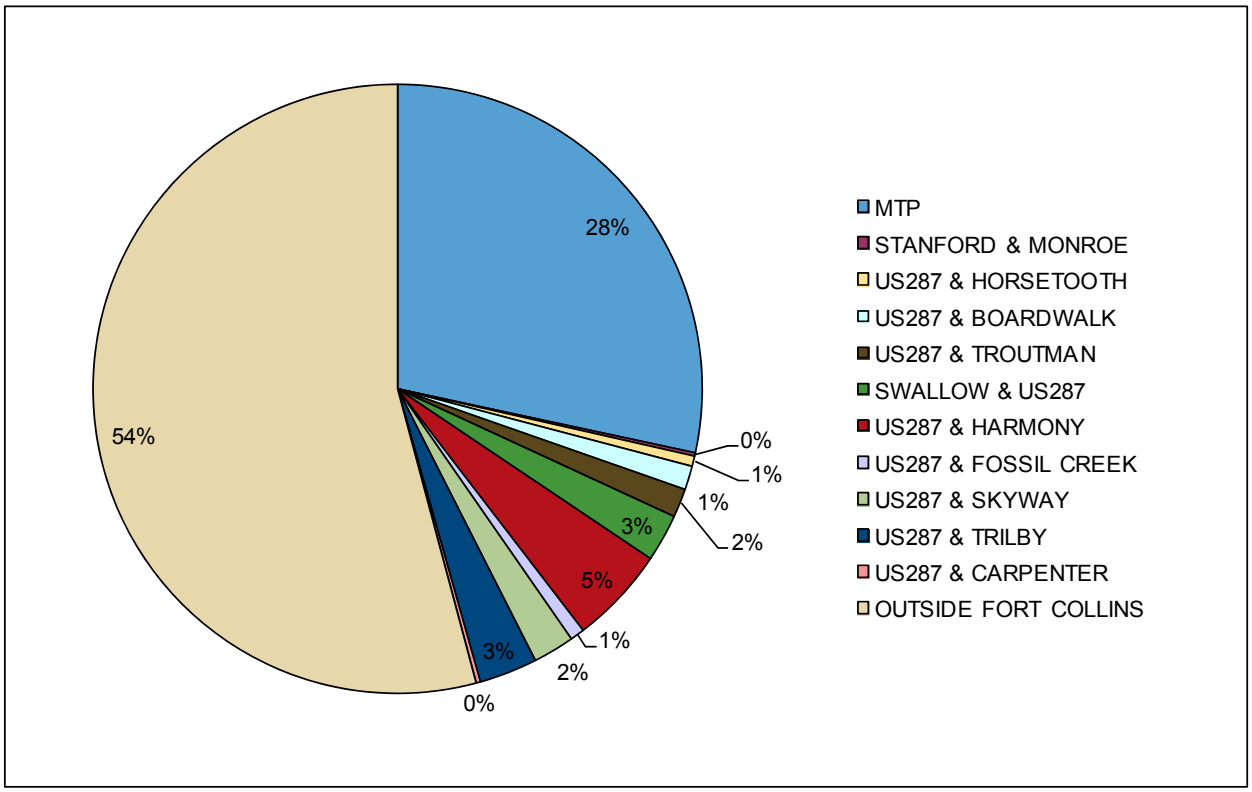
The Route 17 is interlined with the Routes 15 and 18 for a combined cycle time of 120 minutes with 35 minutes of layover

FY 2011 Route Service Productivity				
	CSU In - Session		**CSU Out of Session**	
	Weekday	**Saturday**	**Weekday**	**Saturday**
Avg. Daily Boardings:	158	84	139	76
Pass./Rev Veh.-Hr:	17.6	9.3	15.6	8.5
Pass./Rev Veh.-Mi:	1	0.5	0.9	0.5
Pass./Trip:	6.1	3.2	5.4	2.9

Route 19 – provides north/south service via Shields Street between the CSU Transit Center and Front Range Community College. The route provides additional access to Rocky Mountain High School and Rolland Moore Community Park. Buses run every 60 minutes year-round, Monday through Friday from 6:40am to 7:26pm. When PSD is in session, headways are 30 minutes during the morning and evening peak travel periods. This route did not exist in 2008, which is the last available year for ridership data from the TSOP.

FLEX – provides regional service between Fort Collins, Loveland, Berthoud, and Longmont. Within Fort Collins, FLEX provides service along College Avenue to the DTC and MTP, with a timed stop at the intersection of College Avenue and Harmony Road before connecting south. Headways vary throughout the weekday, with morning and evening peak hours at about 30 minutes and mid-day service at an hour for the College Avenue/Harmony Road stop. Service in Fort Collins starts as early as 5:24am and ends as late as 8:00pm. Saturday service is primarily every 60 minutes and starts as early as 6:17am and as late as 8:23pm. The Boulder County Business Report stated that as of the end of 2010, FLEX was averaging 500 riders a day for the entire route. **Figure A-16** shows the distribution of weekday boardings by individual stops within Fort Collins and all other stops outside of the City. The US 287 and Harmony Road stop accounts for approximately five percent of the total daily FLEX boardings.

Figure A-16. FLEX Average Weekday Boardings by Stop



Source: Transfort, 2010

Challenges for Transit Service along Harmony Road

The design of much of Harmony Road makes providing safe, convenient and efficient transit service difficult for Transfort and less appealing for users and potential users. These challenges include physical impediments such as:

- Drainage ditches located directly adjacent to the roadway along much of the corridor
- Long distances between signalized intersections
- Wide Harmony right-of-way to cross, six travel lanes with deceleration/acceleration lanes and bike lanes in most locations
- Lack of sidewalk connections in some locations
- Lack of convenient sidewalk connections to amenities along the corridor (80' setbacks)
- Lack of curb and gutter infrastructure along most of the corridor

The concrete lined ditch and the wide setbacks in the foreground are examples of impediments to transit use.

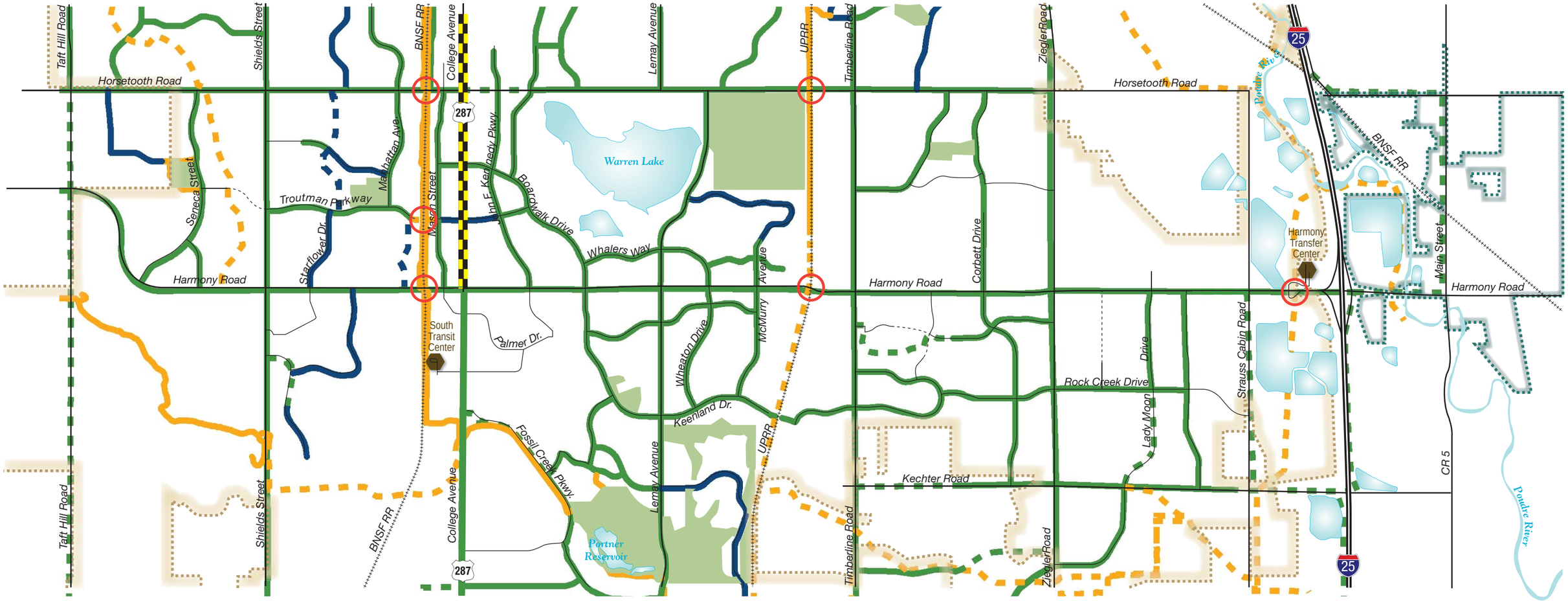
These physical barriers have limited where transit stops are located throughout the corridor and are discouraging to transit users.

Bicycle and Pedestrian

Bicycle Facilities

Fort Collins has an extensive bicycle network composed of on-street bike lanes, designated bike routes, and multi-use trails. Harmony Road has six- to ten-foot bike lanes on both sides of the street from I-25 through the Shields Street intersection. The width of the bike lane varies depending upon the available pavement width; in some locations, a shoulder as wide as eight feet exists outside of the striped bike lane. Two of the City's primary north-south multi-use trails exist in the study area and have current or planned crossings of Harmony Road: the Mason Trail parallels the BNSF Railway and currently has an at-grade crossing at Harmony Road. The Power Trail parallels the UP Railroad near Timberline Road and is planned to be extended to the south to cross Harmony Road. Long-term, grade separated crossing are planned at both locations, as well as at the proposed trail crossing near the Harmony Transfer Center. **Figure A-17** shows the existing and proposed bicycle facilities in the study area. Bicyclists are prohibited on College Avenue (US 287) north of Harmony Road.

The Mason Trail currently crosses Harmony Road at-grade, adjacent to the BNSF Railroad crossing.



LEGEND

- Bike Lanes
- Proposed Bike Lanes
- Bike Routes
- Proposed Bike Routes
- Multi-Use Trails
- Proposed Multi-Use Trails
- No Bicycling
- Proposed Grade Separated Crossing

NORTH

SOURCE: City of Fort Collins GIS data set

Figure A-17

Existing and Proposed Bicycle Facilities

Pedestrian Facilities

Sidewalks along Harmony Road have been built over time as development has occurred. In general, the sidewalks conform to the urban design character recommended in the *Harmony Corridor Plan*, that is, wide setbacks with naturalistic berming, and a meandering eight-foot sidewalk. This wider sidewalk along the Harmony Road corridor serves both pedestrians and recreational bicyclists as an alternative to the on-street bike lanes. As shown on **Figure A-18**, sidewalks currently exist along the vast majority of the corridor, and all but a few sections of the sidewalk are detached from the roadway. There are, however, a few sections of the corridor that lack sidewalks, most notably between Ziegler Road and Strauss Cabin Road. The missing section of sidewalk on the north side of Harmony Road between the UPRR and Timberline Road will be constructed as part of the planned widening project in the summer of 2012. The City has proactively required development along the corridor to provide pedestrian connections between the corridor land uses and the sidewalks to facilitate pedestrian travel and access to transit along the corridor.

The sidewalks along Harmony Road are typically meandering with a wide tree-lined buffer.

Even with sidewalks provided throughout most of the corridor, in many instances, these pedestrian connections are inconvenient, inaccessible and even lack safety considerations for pedestrian users. Some of the challenges pedestrians face throughout the corridor include:

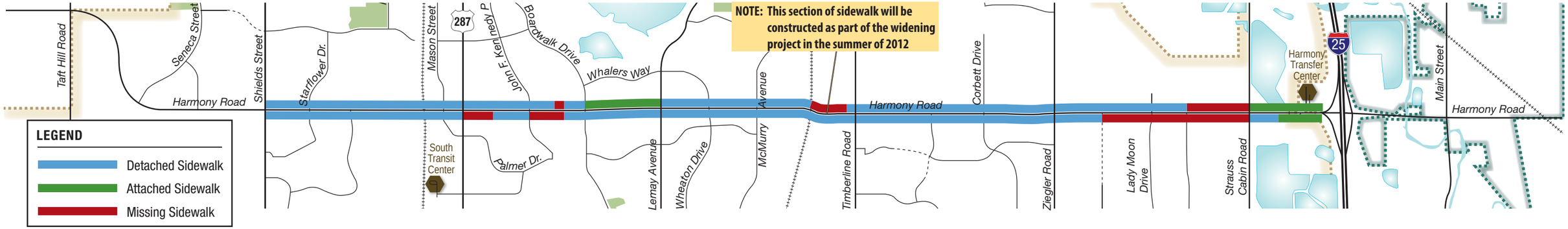
- Indirect pedestrian connections to destinations, i.e., connections ending at the back of buildings, and lack of desirable visual connection between the corridor and the surrounding land uses
- Limited and long distances between signalized street crossings, encouraging j-walking across Harmony Road
- Large 80’ setback from Harmony Road and adjacent uses
- Large Harmony Road right-of-way for pedestrians to cross comfortably
- Drainage ditches located between the detached sidewalks and street, limiting the available location of bus stops

The major constraints for pedestrians are identified on **Figure A-18** including barriers to crossing Harmony Road and barriers to accessing land uses along the corridor. In many ways Harmony Road provides a sheltered, pleasant walking experience because of the naturalistic berming, abundant landscaping and wide setbacks. But the corridor also requires pedestrians to walk long distances out of their way and cross a large, busy road in the process, and the connections to corridor land uses are not ideal. Kruse Elementary School is a prime example of the difficulty in crossing Harmony Road. The school is located on the north side of Harmony Road off McMurray Avenue. Students south of Harmony feed into Kruse Elementary, but because of the difficulty and lack of comfort crossing Harmony Road, the vast majority of parents drive their children to school.

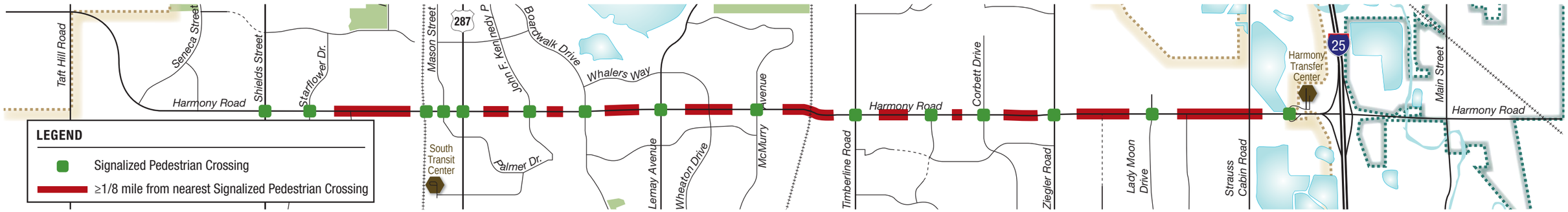
This sidewalk provides a connection between Harmony Road and the adjacent land use, but the sidewalk leaves pedestrians in the large parking lot rather than the front of a building.

Harmony Road ENHANCED TRAVEL CORRIDOR Alternatives Analysis

EXISTING SIDEWALK CONDITIONS



BARRIERS to CROSSING HARMONY ROAD



BARRIERS to ACCESSING CORRIDOR LAND USES

NORTH

SOURCE: FHU, field verified

Figure A-18

Existing Sidewalk Conditions and Barriers

Bicycle and Pedestrian Volumes

The bicycle and pedestrian volumes for the PM Peak hour are shown on **Figure A-19**. They represent intersection crossing movements collected between 2010 and 2012 by the City of Fort Collins. The highest levels of pedestrian crossings in the corridor were observed at the Starflower Drive intersection near Front Range Community College and at the Ziegler Road intersection. The bicycle volumes tend to be higher on the western half of the corridor. These bicycle and pedestrian counts indicate low levels of walking and biking activity in the corridor, despite presence of bike lanes along the length of the corridor and sidewalks along the majority of the corridor.

A bicyclist using the Harmony Road bike lane east of College Avenue.

Levels of Service

Bicycle Levels of Service

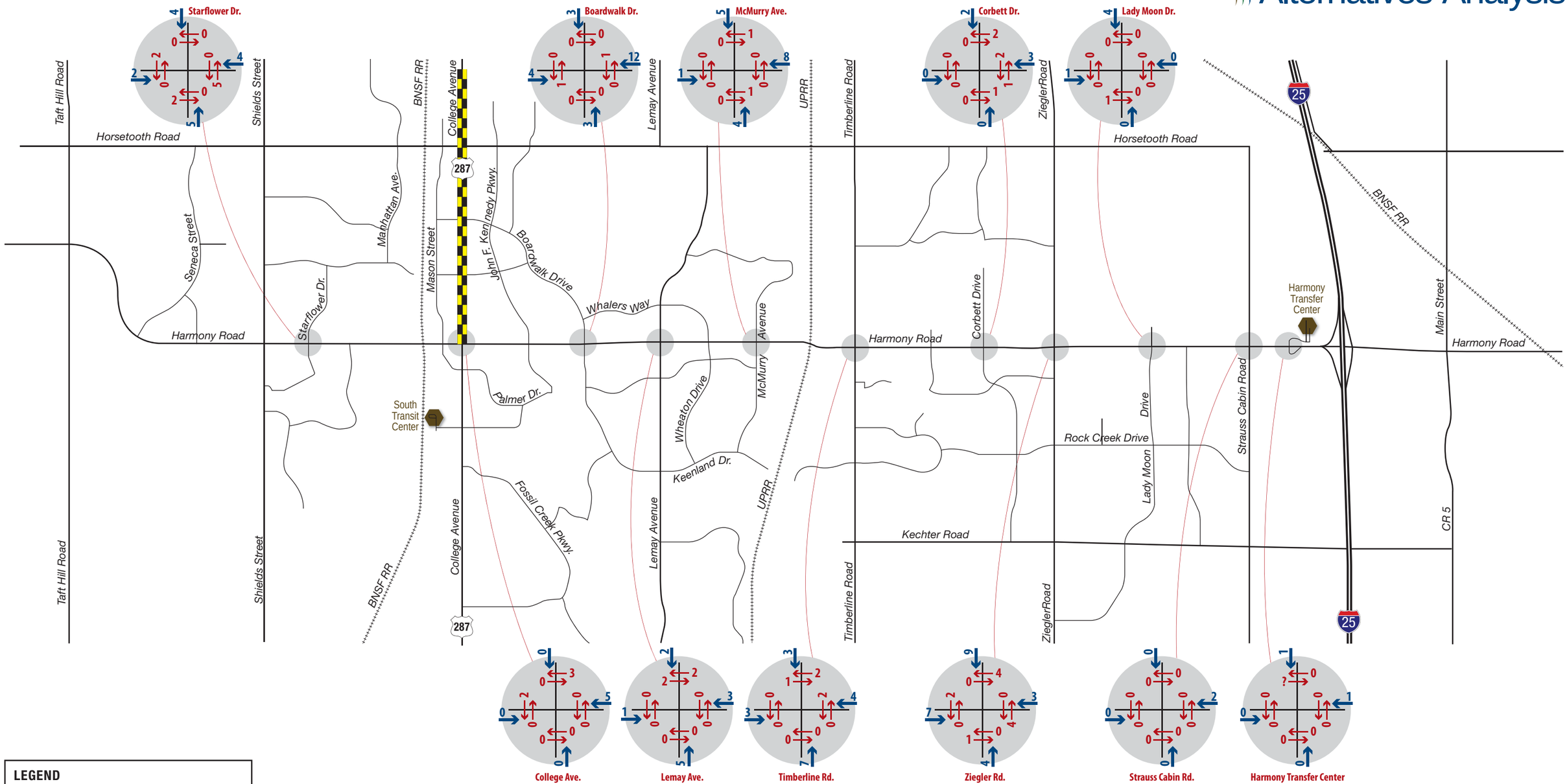
The 2010 *Highway Capacity Manual* (HCM, Transportation Research Board) includes bicycle segment level of service (LOS) calculations that quantify how well a facility operates from the traveler's perspective. LOS scores can be viewed as a measure of how comfortable a bicyclist within a variety of skill levels would be when using the facility. For example, an experienced bicyclist may be comfortable using a facility rated as C, but a novice user may be unwilling to use such a facility. Conditions that affect bicycle segment level of service include:

- Effective travel width for the bicyclists (how much space is available to maneuver within the bikeway)
- On-street parking encroachments (drivers opening the door of their parked vehicles is a hazard for bicyclists)
- Volume of motor vehicles and percent heavy vehicles (less vehicular traffic and fewer heavy vehicles creates a more comfortable environment for bicyclists)
- Speed of traffic (slower vehicular speeds create a more comfortable environment for the bicyclist)
- Pavement surface condition (poor surface conditions require bicyclists to maneuver around pot-holes and cracks)

The existing bicycle segment levels of service along Harmony Road are shown on **Figure A-20**. The full length of the Harmony Road ETC currently provides a bicycle level of service of A or B. The bike lanes on the west end of the corridor (between Shields Street and Boardwalk Drive) are generally six feet wide, resulting in a slightly lower bicycle LOS (B) than the remainder of the corridor.

The HCM 2010 also includes a methodology for calculating the bicycle intersection LOS. This LOS represents the perceived hazard of the shared roadway environment through the intersection, and is based on the crossing distance, bike lane width, number of travel lanes, and the vehicular traffic volumes. As shown on **Figure A-20**, the bicycle intersection LOS for movements along Harmony Road (in the east-west direction) are LOS A or B, with the exception of the crossing of College Avenue, which is LOS C. Bicycle intersection LOS for movements crossing Harmony Road (in the north-south direction) range from A to C, except at the College Avenue intersection where the bicycle LOS is D.

Harmony Road ENHANCED TRAVEL CORRIDOR Alternatives Analysis



LEGEND

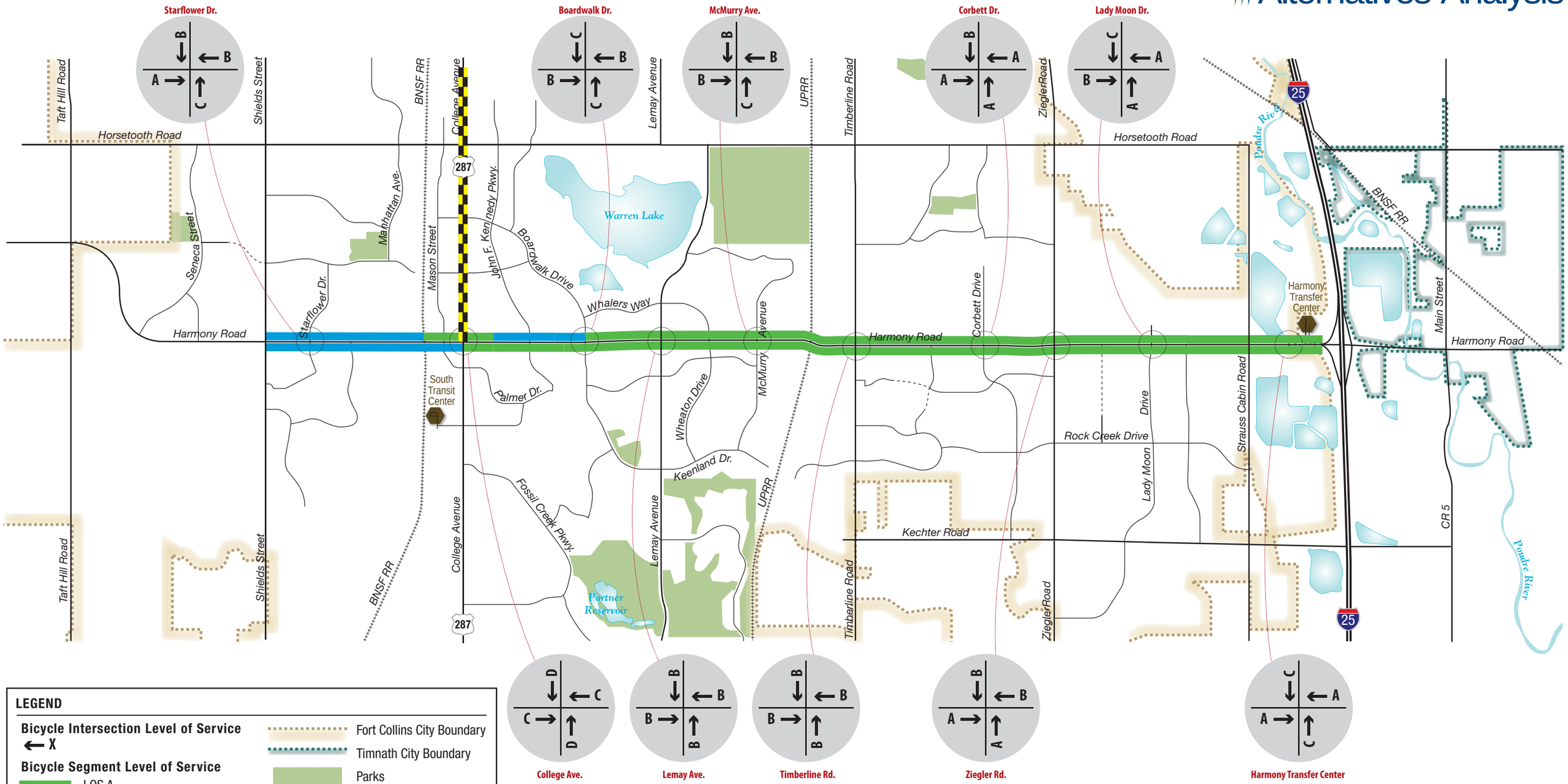
- X PM Pedestrian Volume
- X PM Bicycle Volume
- No Bicycling

NORTH

Figure A-19

Existing Pedestrian and Bicycle Volumes

Harmony Road ENHANCED TRAVEL CORRIDOR Alternatives Analysis



LEGEND

Bicycle Intersection Level of Service
← X

Bicycle Segment Level of Service
- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

- Fort Collins City Boundary
- Timnath City Boundary
- Parks
- Planned Roads
- No Bicycling

NORTH

Figure A-20
Existing Bicycle Levels of Service

Pedestrian Level of Service

Pedestrian segment level of service can likewise be quantified to reflect the comfort experienced by pedestrians. Conditions that affect pedestrian level of service include:

- Width of the sidewalk (a wider sidewalk allows pedestrians to travel two or more abreast and pass comfortably)
- Width of buffer separation and presence of barriers within buffer (a buffer increases the distance between pedestrians and vehicular traffic creating a more comfortable and safe walking environment; the presence of trees or other barriers within the buffer further enhances pedestrians' feeling of separation from vehicular traffic)
- Amenities on adjacent roadway (a wider outside vehicular travel lane, the presence of bike lanes and on-street parking increases the separation between pedestrians and vehicular traffic, creating a more comfortable environment)
- Volume and speed of motor traffic (less vehicular traffic and slower speeds create a more comfortable environment)

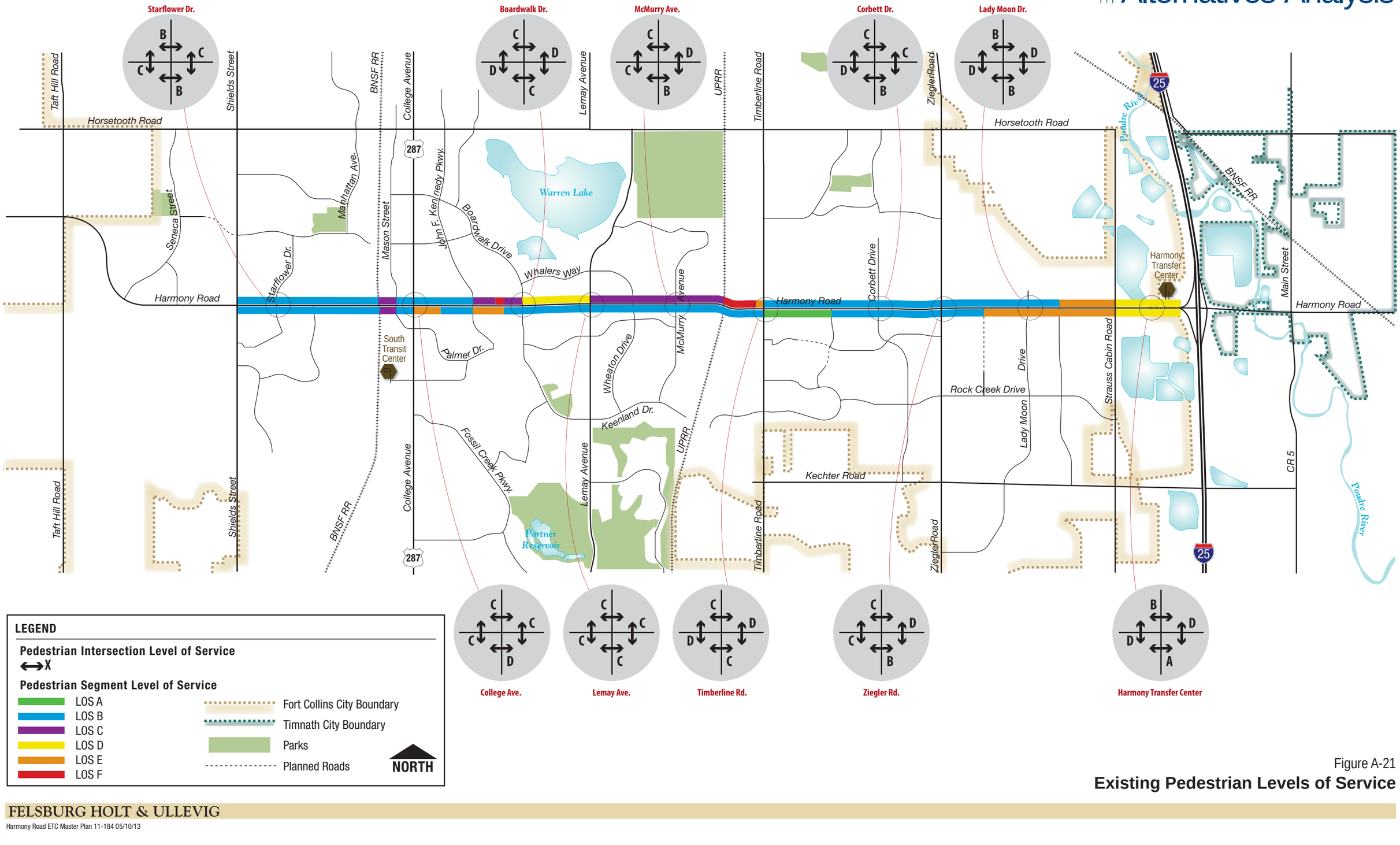
The existing pedestrian segment levels of service along Harmony Road are shown on **Figure A-21**. The pedestrian segment LOS along the corridor range from A to F; LOS A, B, or C is typically observed where the sidewalk is substantially separated from the vehicular traffic, providing a more comfortable environment for pedestrians. LOS D is observed where the sidewalk is attached to the roadway, and LOS E or F is observed where the sidewalk is missing.

The HCM 2010's pedestrian LOS at intersections is calculated based on both the delay incurred by pedestrians crossing the intersection and the geometric design considerations and levels of traffic volumes that affect the pedestrians' exposure to and interaction with turning vehicles. The PM peak hour pedestrian LOS at the study area intersections is shown on **Figure A-21**. All crossings of Harmony Road are currently at LOS C or D, while the pedestrian LOS for crossing the side streets ranges from A to D.

The *Fort Collins Pedestrian Plan* (2011) includes a methodology for measuring Pedestrian LOS based on five areas of evaluation: Directness, Continuity, Street Crossing, Visual Interest and Amenity, and Security. The Pedestrian Plan defines minimum acceptable Pedestrian LOS standards for Pedestrian Priority Areas. Harmony Road is designated as a transit corridor in the Pedestrian Plan, for which the minimum standard LOS is B for directness and security and C for continuity, street crossing and visual interest and amenity. Following is a qualitative description the range and degree to which the Harmony Road corridor meets each of the pedestrian LOS criteria.

- **Directness** – This measure describes how well an environment provides direct pedestrian connections to transit stops and vicinity activity centers such as schools, parks, and commercial centers. The more out of direction walking that is required of a pedestrian, the lower the Directness rating. As depicted on **Figure A-18**, there are a number of barriers along the Harmony Road corridor that inhibit direct pedestrian connections to transit stops and corridor land uses, including the concrete lined ditches, and the long walking distances between signalized pedestrian crossings.
- **Continuity** – This is a measure of the completeness of the sidewalk system. As shown on **Figure A-18**, there are sidewalks along the vast majority of the Harmony Road corridor on both sides. However, there are a few notable gaps in the sidewalk system – intermittent between College Avenue and Boardwalk Drive, and between Ziegler and Strauss Cabin Road. The missing sidewalk on the north side of Harmony Road between the UPRR and Timberline Road will be constructed in the summer 2012 as part of the Harmony Road widening project.

Harmony Road ENHANCED TRAVEL CORRIDOR Alternatives Analysis



LEGEND

Pedestrian Intersection Level of Service

↔X

Pedestrian Segment Level of Service

- LOS A
- LOS B
- LOS C
- LOS D
- LOS E
- LOS F

- Fort Collins City Boundary
- Timnath City Boundary
- Parks
- Planned Roads

NORTH

Figure A-21

Existing Pedestrian Levels of Service

- **Street Crossing (signalized only)** – This measure is an assessment of pedestrians' ability to safely cross a street to get to destinations. The 2010 HCM includes a robust, quantitative analysis of pedestrian crossing. As depicted on **Figure A-21**, the pedestrian intersection levels of service along the corridor range from LOS A to D during the PM peak hour, with all crossings of Harmony Road at LOS C or D.
- **Visual Interest and Amenity** – This is a measure of the pedestrian system's attractiveness and features. Much of the Harmony corridor has a meandering, detached sidewalk with landscaping that provides an attractive setting for pedestrians to travel the corridor. There are a few sections, as shown on **Figure A-18**, where the sidewalk is attached to the road, providing minimal buffer between pedestrians and motor vehicles, resulting in a less appealing walking environment.
- **Security** – This is a measure of a pedestrian's sense of security in terms of visual line of sight with motor vehicles and separation from motor vehicles. Again, the segments of the corridor that provide meandering detached sidewalk and pedestrian lighting provide the pedestrian with a sense of security, while the sections where the sidewalk is attached or non-existent result in a decreased sense of security for pedestrians.

The alternatives developed and evaluated as a part of the Harmony Road ETC Alternatives Analysis will strive to meet these minimum thresholds for pedestrian accommodation. Specifically, these areas of evaluation will be used as an element of the station location evaluation and selection process.