



Southwest Longmont
OPERATIONS STUDY

PUBLIC OPEN HOUSE

Southwest Longmont Operations Study

**Thursday April 5, 2018
4:30 p.m. to 6:30 p.m.**



Southwest Longmont
OPERATIONS STUDY

WELCOME !

Please
SIGN IN & PICK UP
information material



THEN

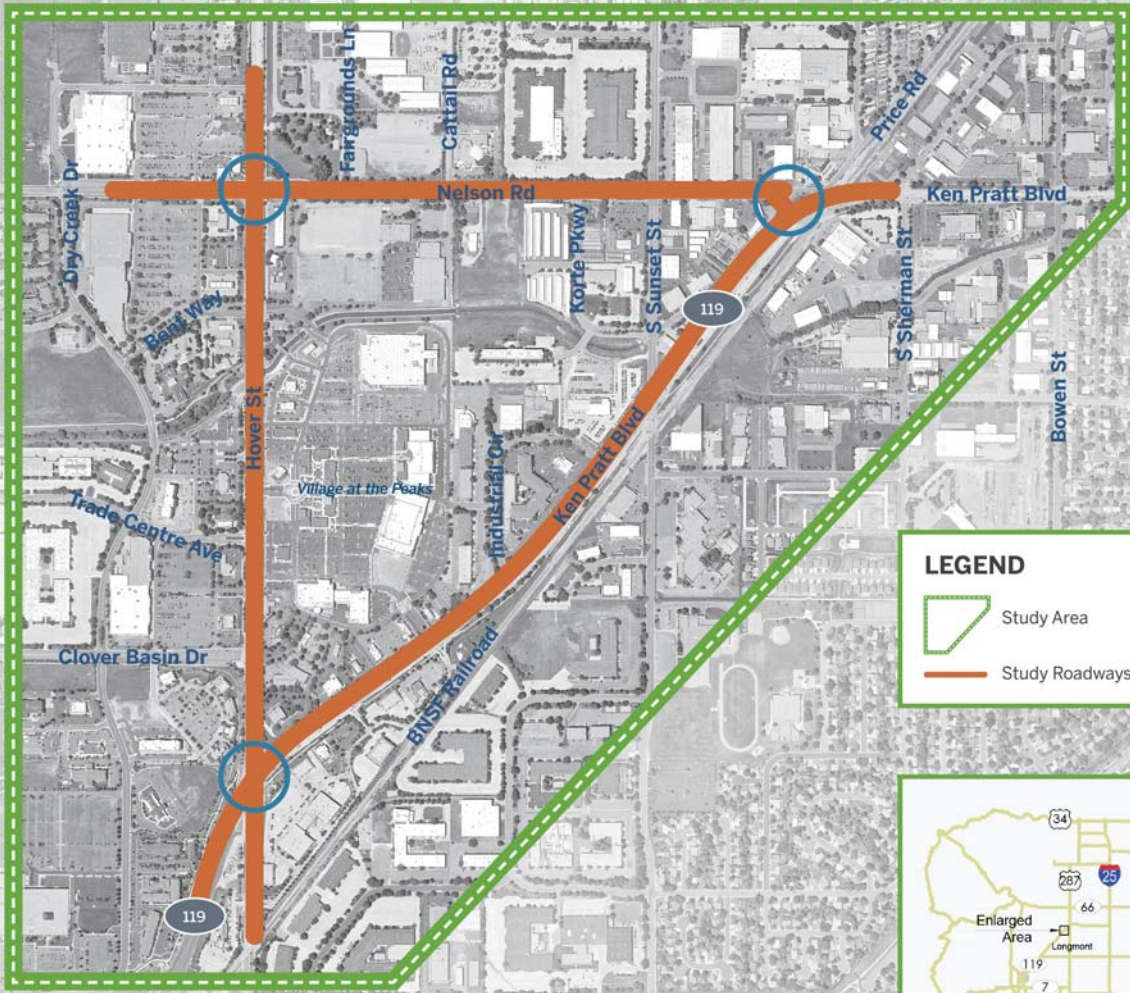
START HERE
Study Introduction





Study Introduction

Southwest Longmont Operations Study STUDY AREA



LEGEND

-  Study Area
-  Study Roadways





Introduction

The *Southwest Longmont Operations Study* has been initiated to advance planning that will address future demands on Longmont's multimodal transportation system in the southwest part of the City. Specifically, the study will examine the arterial roadway network formed by Ken Pratt Boulevard, Hover Street, and Nelson Road; including major intersections along these roadway corridors. The purpose of the study is to identify needed intersection and transportation, as well as pedestrian and bicycle, system improvements that will be supported by concept-level designs and cost estimates that can be incorporated into the City's implementation plans for future construction.

Public Participation


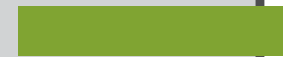






Public review of the alternatives development and analysis is requested. Please use the comment forms provided at this Open House as well as the project website listed on your take-home sheet. Comments received will be considered prior to finalizing the study's recommended improvements.

Study Goals

The study will consider a broad range of City concerns that are outlined in *Envision Longmont*. These concerns include:

- Fulfilling transportation needs with neighborhood character
- Preserving arterial streets as the backbone of multimodal travel
- Integrating safe and accessible bicycle and pedestrian features

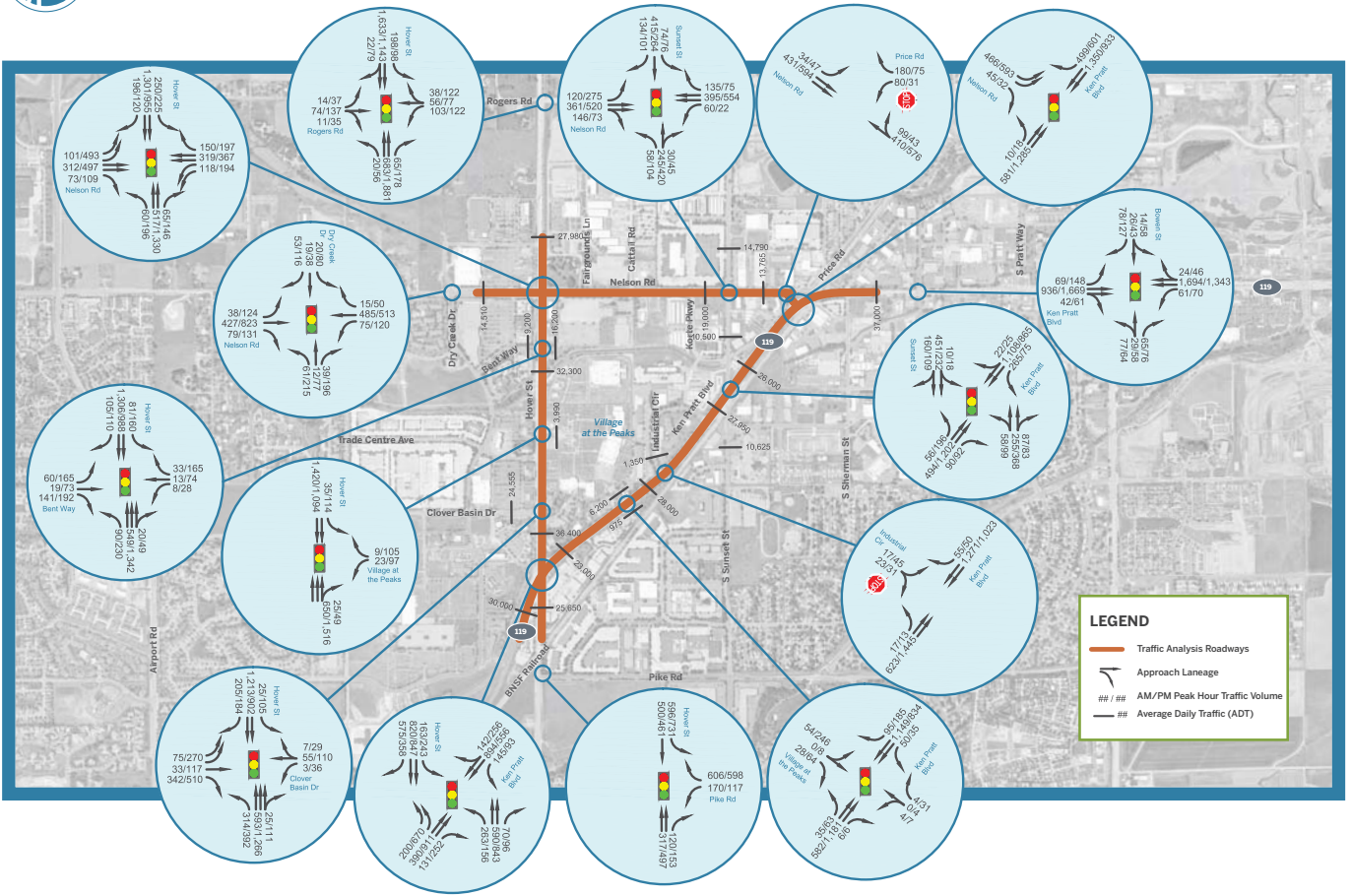
STUDY SCHEDULE

STUDY PHASE	2017	2018					
	DEC	JAN	FEB	MAR	APR	MAY	JUNE
Study Initiation							
Data Collection/Research <ul style="list-style-type: none"> • Traffic Data Collecton • Crash History • Roadway Inventory 							
Baseline Analysis <ul style="list-style-type: none"> • Travel Demand Forecasting • Traffic Operations Analysis (Existing & Year 2040) • Safety Assessment 							
Existing Conditions Report							
Alternatives Analysis <ul style="list-style-type: none"> • Evaluation Criteria • Alterantives Screening 							
Alternatives Analysis Report							
Final Recommendations Report							
Public Open House							

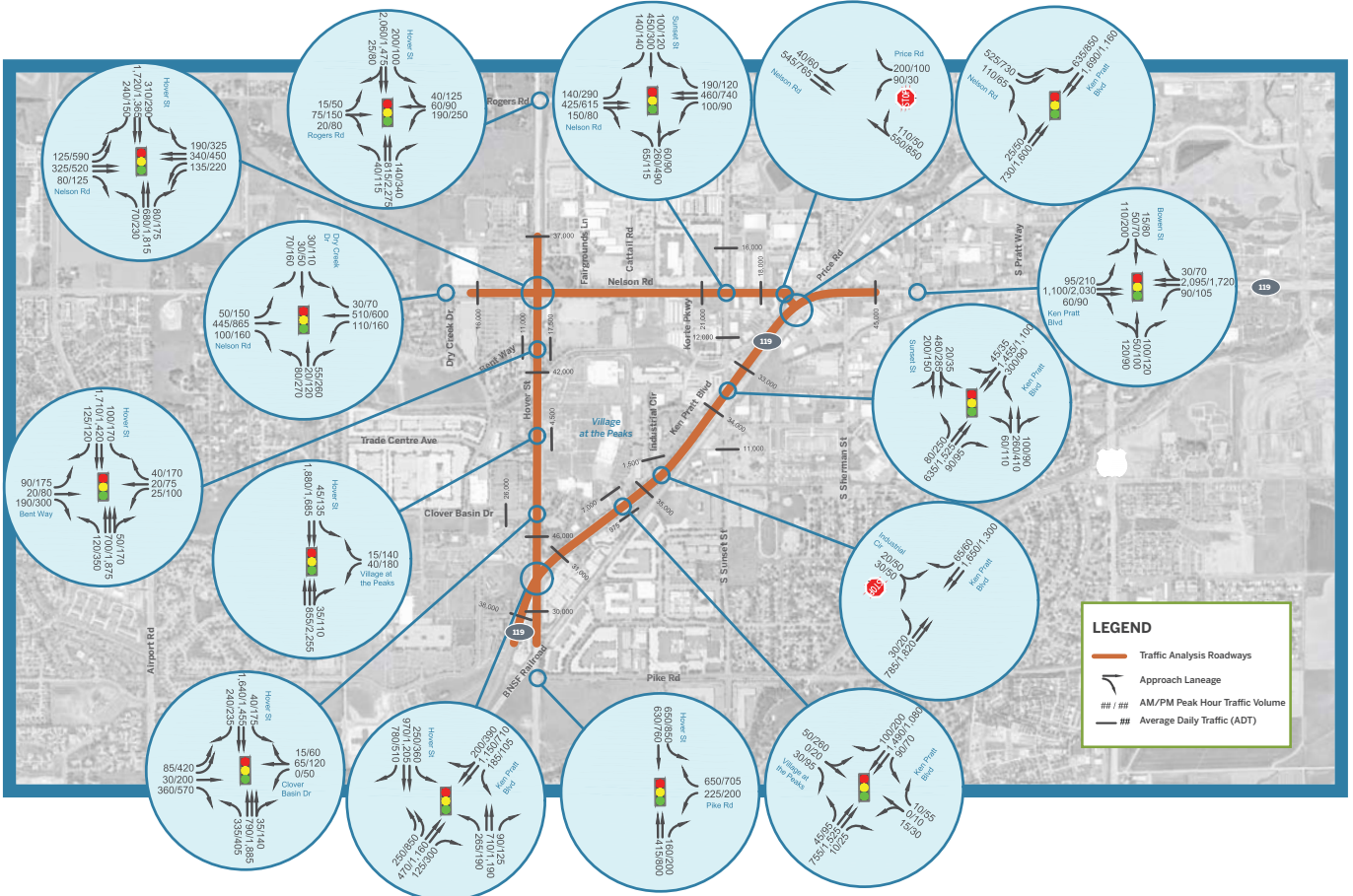


Vehicular Travel Conditions

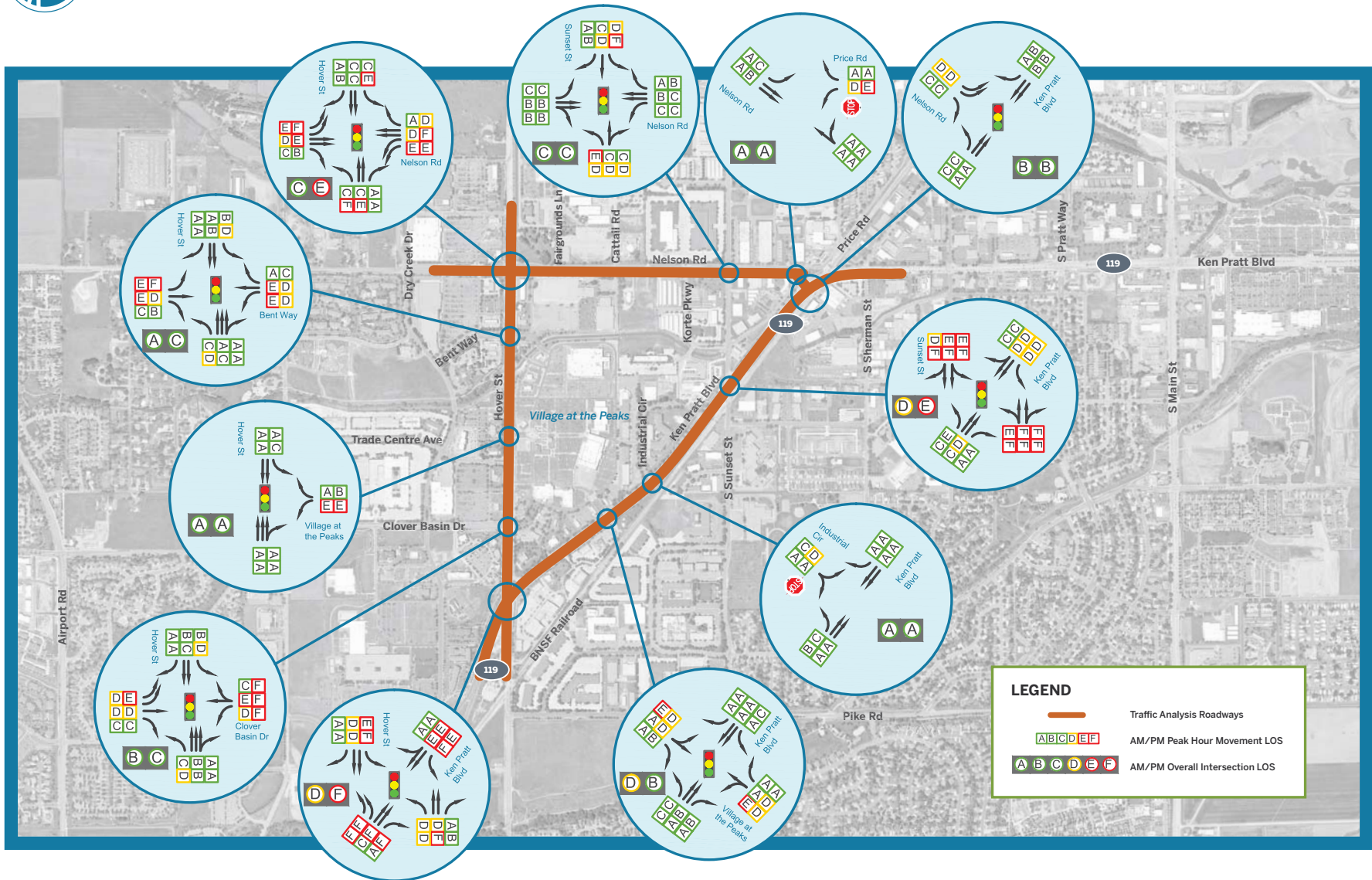
Existing Traffic Volumes



2040 Traffic Volumes

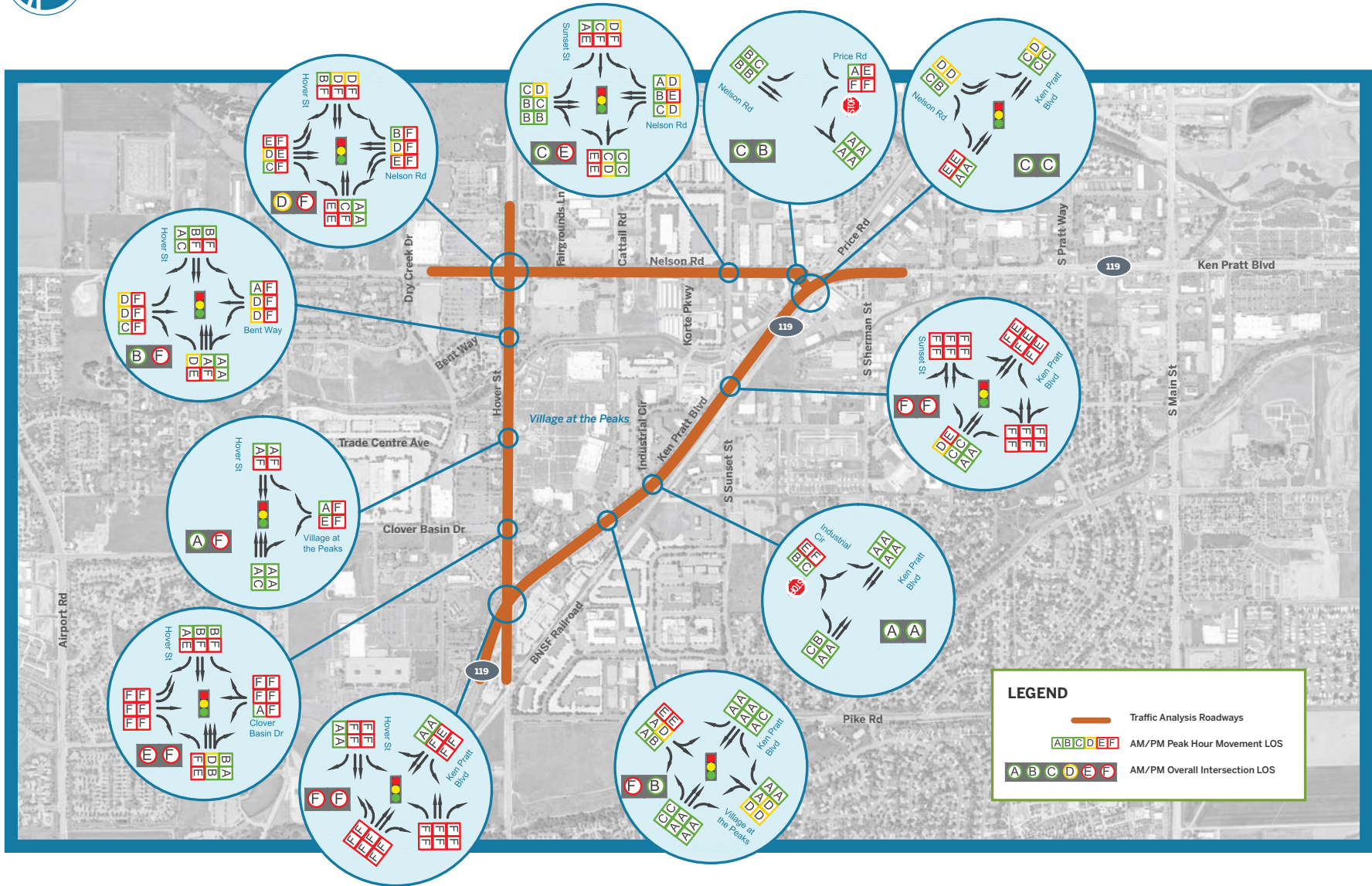


Existing Intersection Level of Service

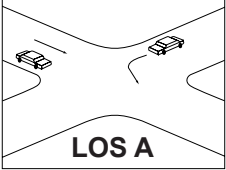
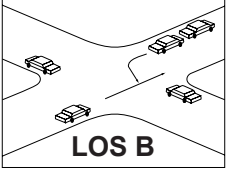
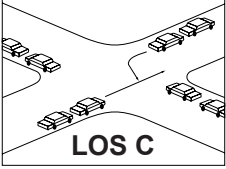
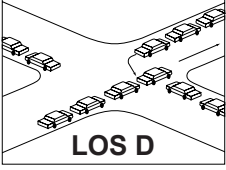
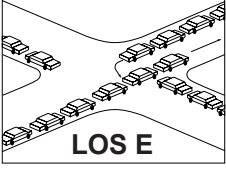
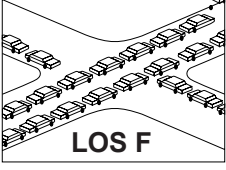




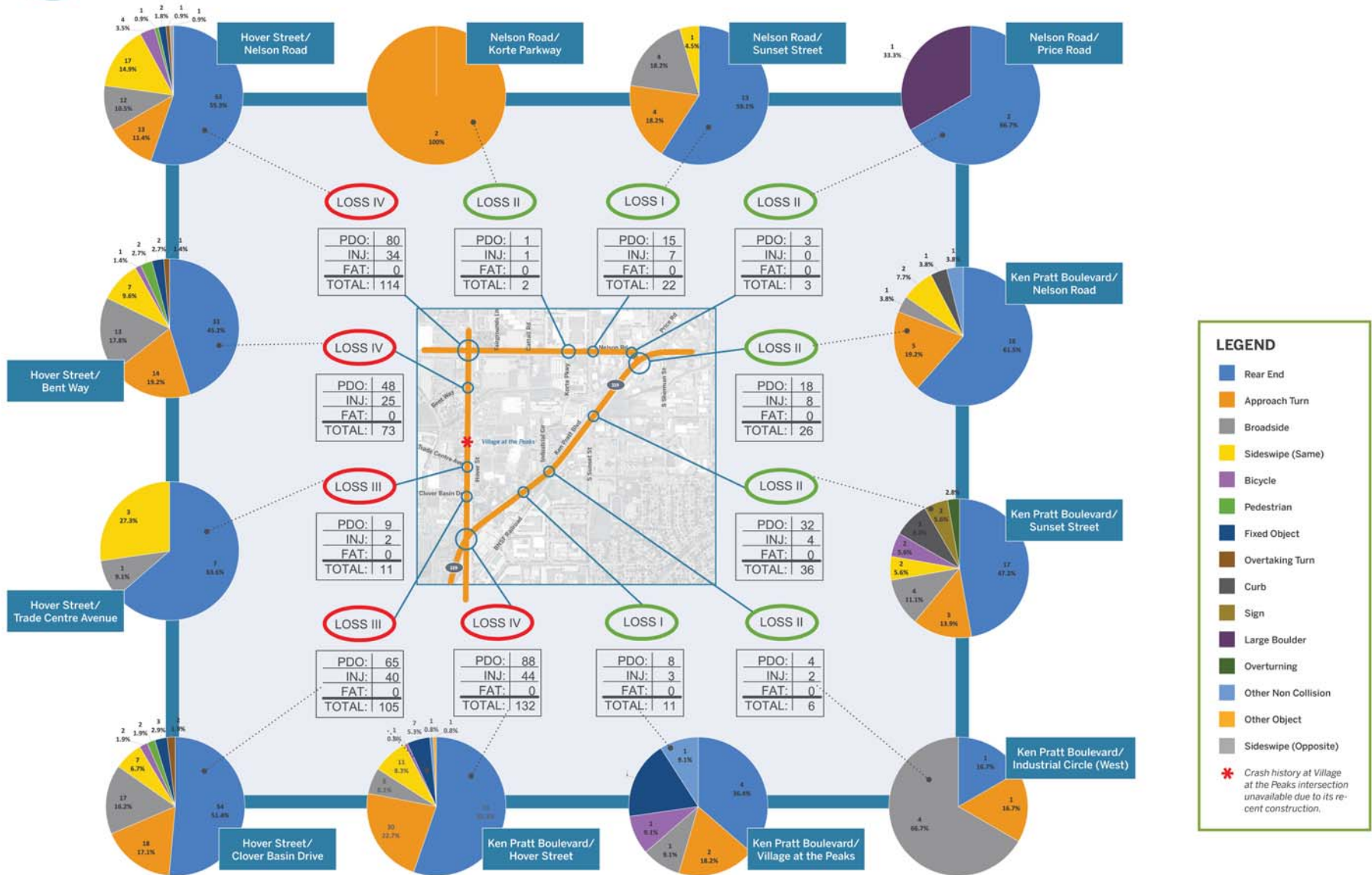
2040 Intersection LOS



VEHICLE LEVEL OF SERVICE (LOS) DESCRIPTIONS

	<u>Unsignalized Intersections</u>	<u>Signalized Intersections</u>	
LOS	<i>Description</i>	<i>Description</i>	
A	Minimal or no vehicular delay.	No vehicle waits longer than one signal indication.	
B	Slight delay to vehicles.	On a rare occasion vehicles wait through more than one signal indication.	
C	Moderate vehicle delays, traffic flow remains stable.	Intermittently vehicles wait through more than one signal indication, occasionally backups may develop, traffic flow still stable.	
D	More extensive delays at intersections.	Delays at intersections may become extensive, but enough cycles with lower demand occur to permit periodic clearance, preventing excessive backups.	
E	Long queues create lengthy delays.	Long queues create lengthy delays.	
F	Severe delays and congestion.	Backups from locations downstream restrict or prevent movement of vehicles, creating a "gridlock" condition.	

5-Year Crash History



Level of Service of Safety (LOSS) Definitions

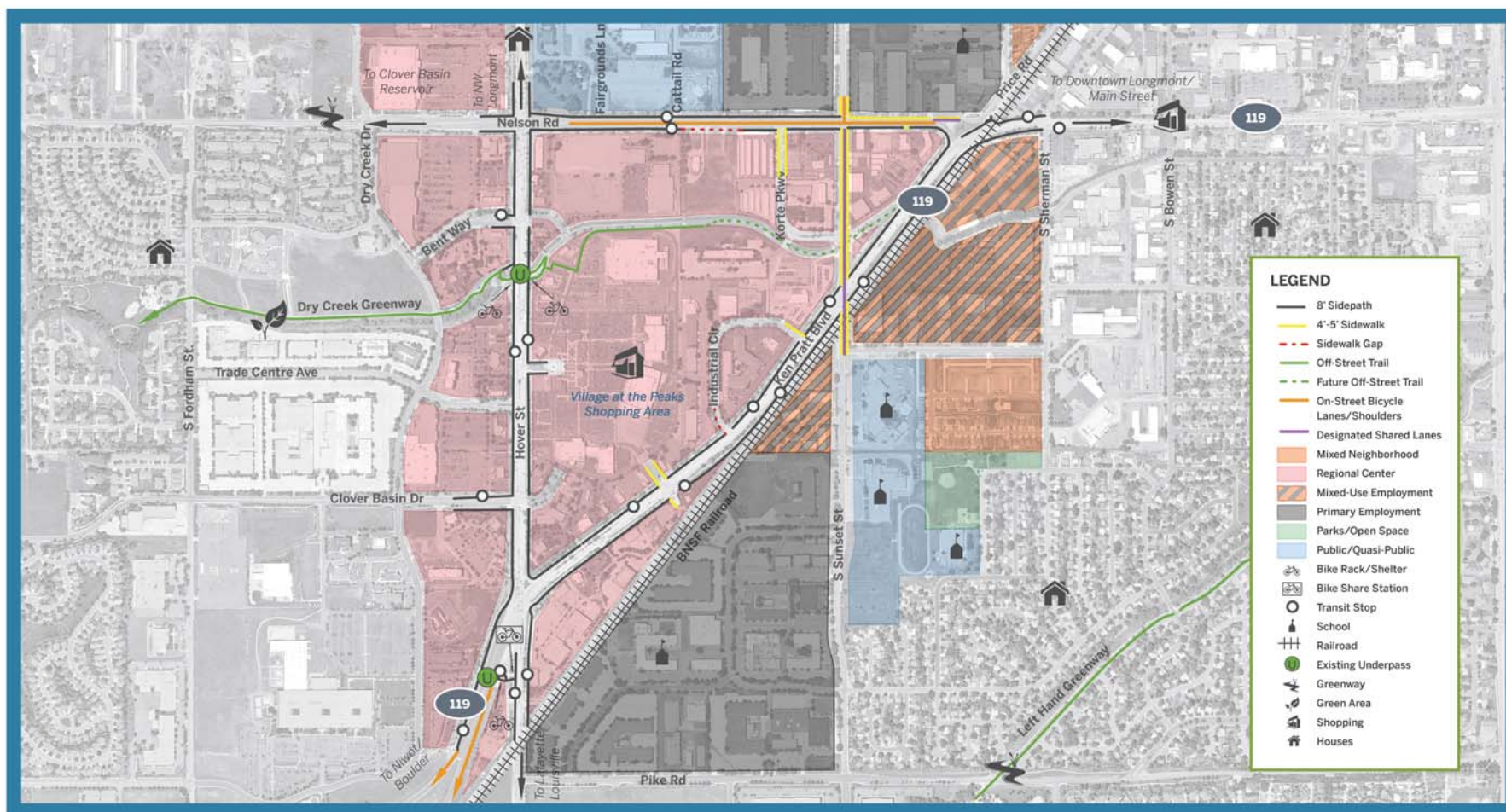
The concept of level of service uses quantitative measures and qualitative description that characterize safety of a roadway segment in reference to its expected frequency and severity. If the level of safety predicted by the SPF will represent a normal or expected number of crashes at a specific level of AADT, then the degree of deviation from the norm can be stratified to represent specific levels of safety.

- LOSS I** – Indicates low potential for crash reduction
- LOSS II** – Indicates low to moderate potential for crash reduction
- LOSS III** – Indicates moderate to high potential for crash reduction
- LOSS IV** – Indicates high potential for crash reduction

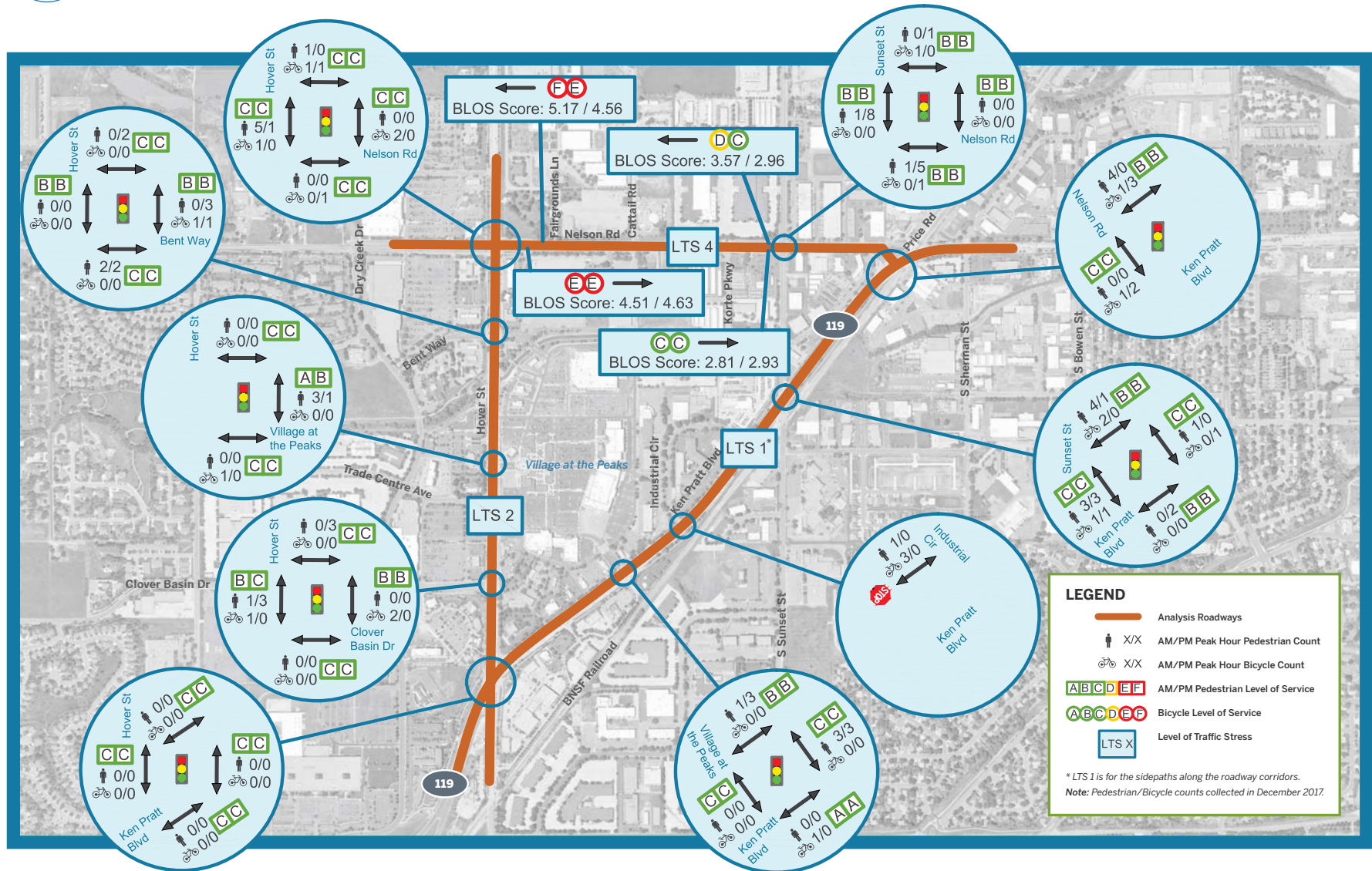


Pedestrian & Bicycle Conditions

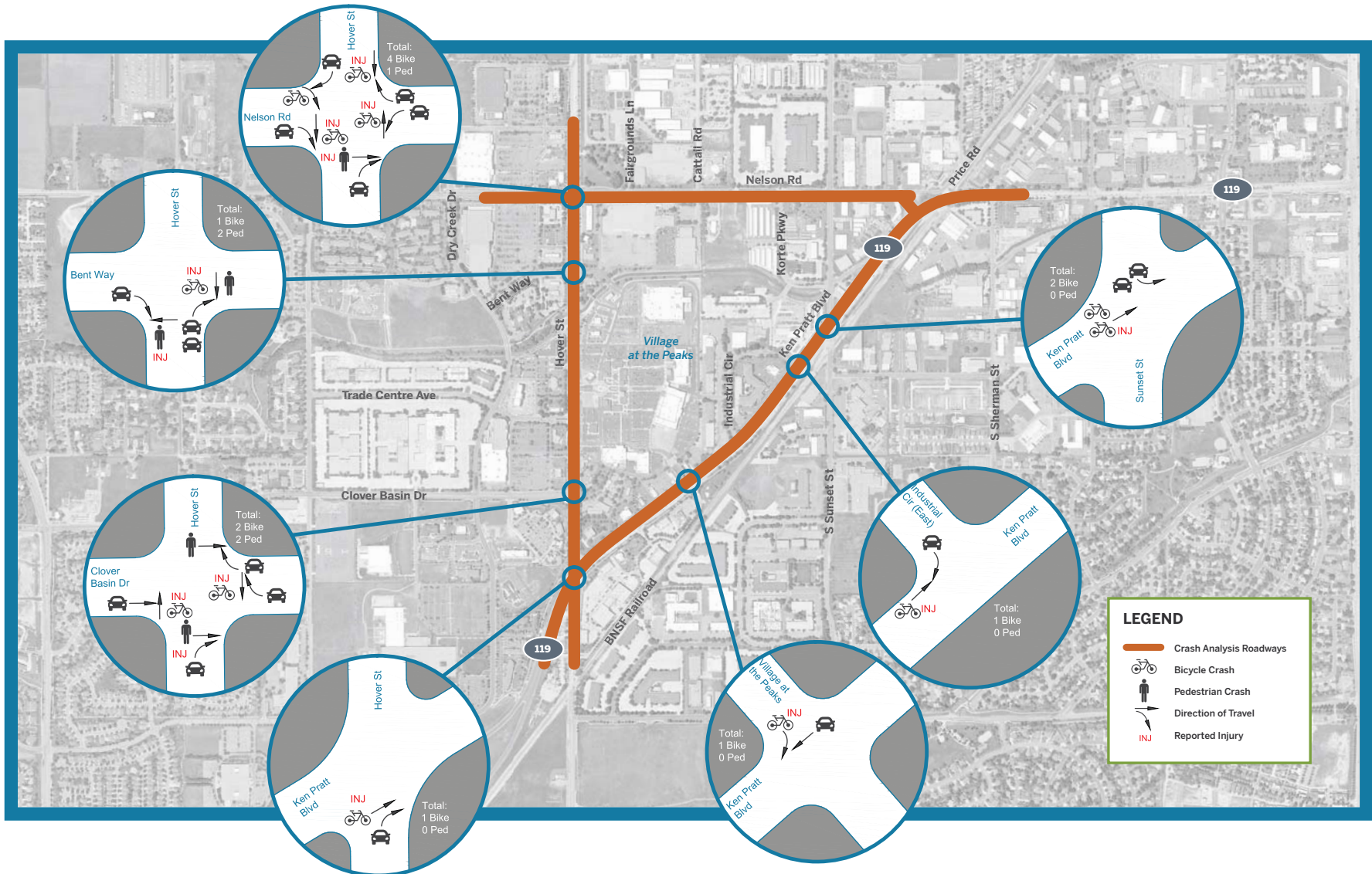
SW Longmont Pedestrian/Bicycle Connectivity



Pedestrian/Bicycle Volume and Operations



5-Year Pedestrian/Bicycle Crash History



Level of Traffic Stress (LTS)

Definitions

LTS 1	<p>Presenting little traffic stress and demanding little attention from cyclists, and attractive enough for a relaxing bike ride. Suitable for almost all cyclists, including children trained to safely cross intersections. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a slow traffic stream with no more than one lane per direction, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where cyclists ride alongside a parking lane, they have ample operating space outside the zone into which car doors are opened. Intersections are easy to approach and cross.</p>
LTS 2	<p>Presenting little traffic stress and therefore suitable to most adult cyclists but demanding more attention than might be expected from children. On links, cyclists are either physically separated from traffic, or are in an exclusive bicycling zone next to a well-confined traffic stream with adequate clearance from a parking lane, or are on a shared road where they interact with only occasional motor vehicles (as opposed to a stream of traffic) with a low speed differential. Where a bike lane lies between a through lane and a right-turn lane, it is configured to give cyclists unambiguous priority where cars cross the bike lane and to keep car speed in the right-turn lane comparable to bicycling speeds. Crossings are not difficult for most adults.</p>
LTS 3	<p>More traffic stress than LTS 2, yet markedly less than the stress of integrating with multilane traffic, and therefore welcome to many people currently riding bikes in American cities. Offering cyclists either an exclusive riding zone (lane) next to moderate-speed traffic or shared lanes on streets that are not multilane and have moderately low speed. Crossings may be longer or across higher-speed roads than allowed by LTS 2, but are still considered acceptably safe to most adult pedestrians.</p>
LTS 4	<p>A level of stress beyond LTS3.</p>

Source: Low-Stress Bicycling and Network Connectivity, MTI Report 11-19, May 2012



Which Improvements are
Most Needed?



Potential Improvements

The following examples are types of improvements that could be considered during the development of alternatives for the *SW Longmont Operations Study*. These potential improvements would be both quantitatively and qualitatively evaluated to see how well they meet the City of Longmont's vision, study goals, and evaluation criteria.

Review the list of potential improvements and place a sticker by the improvement you think will have the greatest benefit for each category.

Roadway

- Additional through lane each direction on Ken Pratt Boulevard
- Additional turn lanes
- Access control and movement modifications
- Innovative / alternative intersection solutions (see schematic to the left for information)

Pedestrian and Bicycle

- Additional bike lines on study area corridor
- Crossing improvements at traffic signals (e.g. narrowed crossings, refuge islands)
- Pedestrian overpass / underpass
- Buffered / Separated bike lanes on Nelson
- Leading pedestrian / bicycle interval and signal head for major street crossings along bicycle routes
- Increase pedestrian crossing visibility and safety (signage, raised crosswalks, landscaping improvements)



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Review the list of potential improvements and place a sticker by the improvement you think will have the greatest benefit for each category.

Interchange

- Create a grade-separated interchange at Ken Pratt Blvd (SH 119)/Hover Street
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Transit

- Queue jump lanes for buses
 - Dedicated bus lane on SH 119 / Ken Pratt
 - Sidepath connectivity to bus stops
 - Bus shelter / bus stop amenity enhancements
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Other

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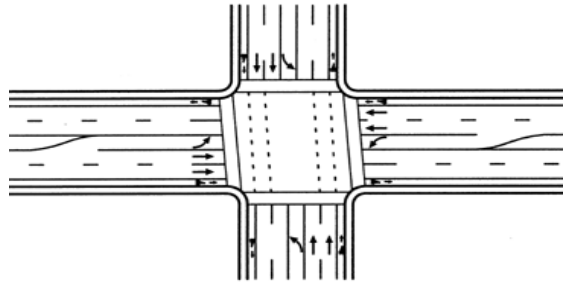
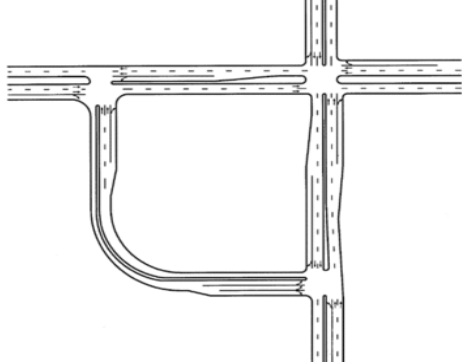
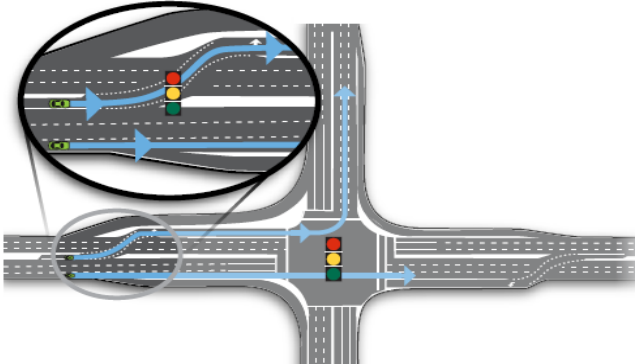
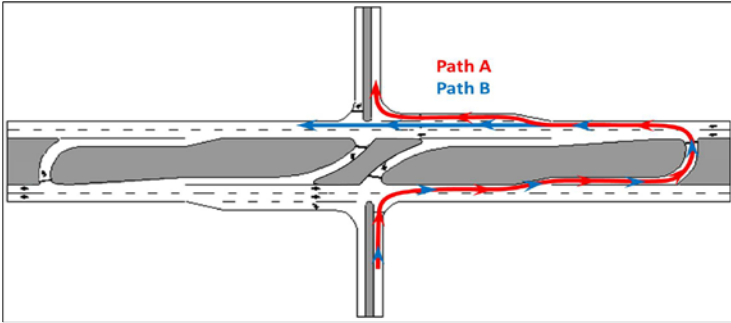
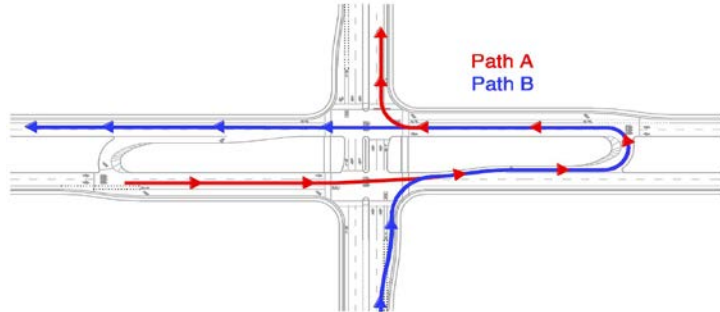
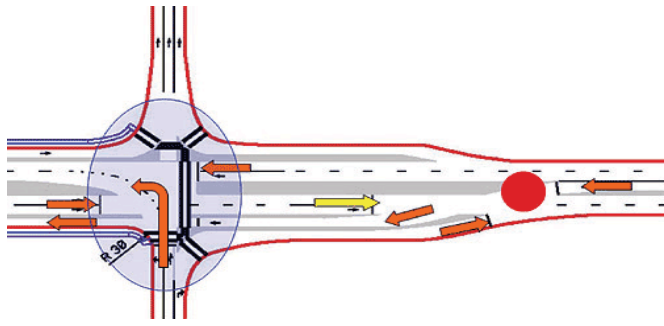
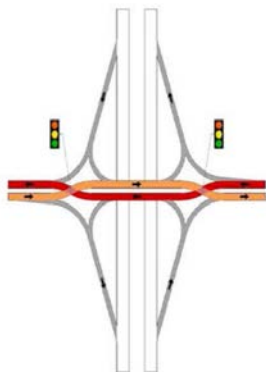
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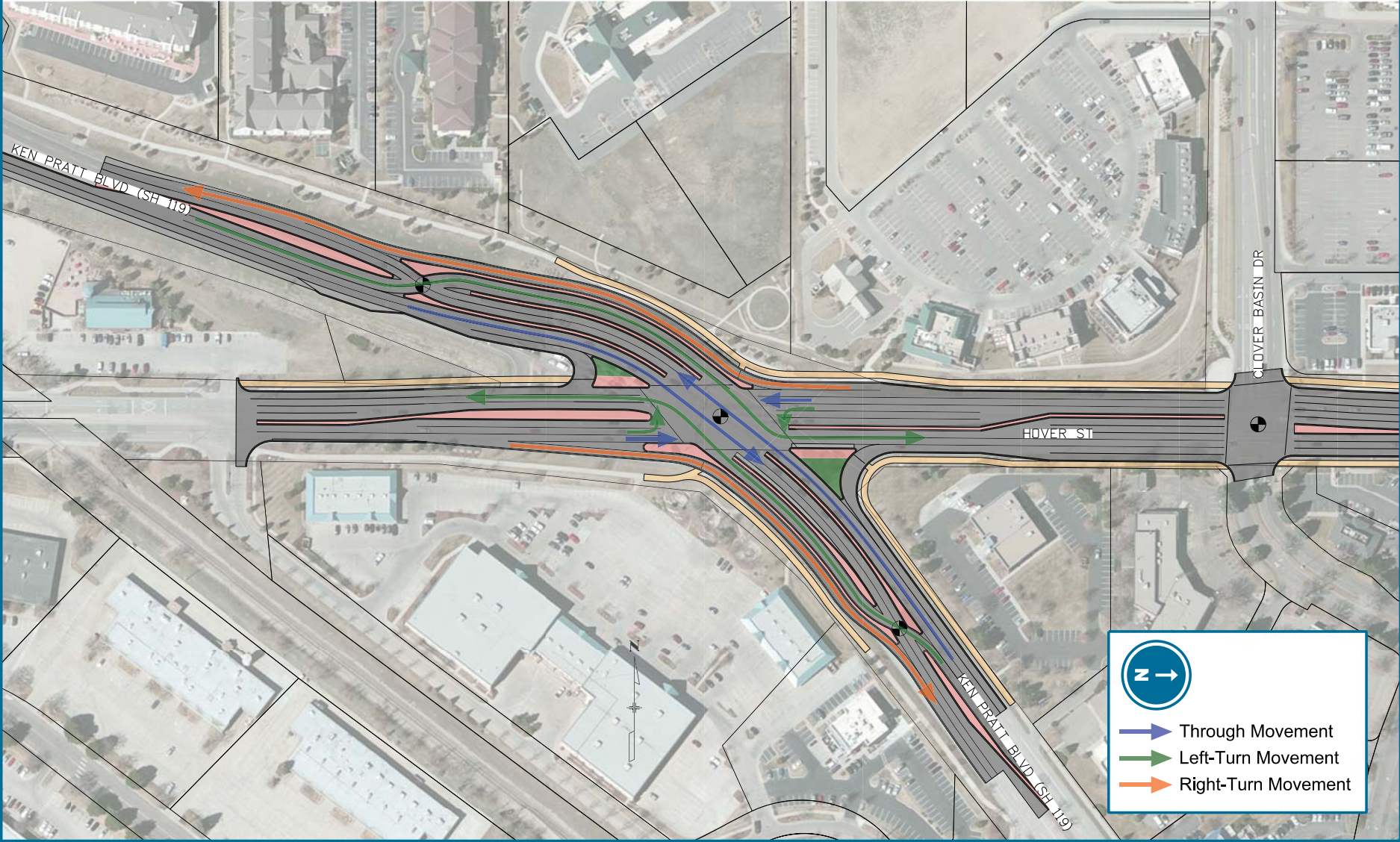
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Examples of the Type of Alternative Intersection that Could Potentially be Considered

Type of Intersection	Example	Description
Conventional		<p>Traditional design of typical intersections. Congestion relief is dependent on the addition of left turn, through, and right turn lanes.</p>
Quadrant Roadway		<p>A quadrant roadway intersection creates two additional three-leg intersections in addition to the original four-leg intersection. The design is intended to remove all left turns from the main intersection. The goal is to improve traffic flow by decreasing signal phases from the main intersection.</p>
Partial Displaced Left-Turn		<p>A partial displaced intersection also known as a continuous flow intersection (CFI) is intended to remove left-turning vehicles from the main intersection. Left-turning vehicles travel at the same time as the through movement phase. In turn, signal phases at the main intersection are reduced.</p>
Restricted Crossing U-Turn		<p>Restricted crossing U-turn (RCUT), also known as the superstreet intersection or J-turn intersection, prohibits the left and through movement from the minor roadway. Users are required to make a u-turn at a signalized u-turn intersection to complete the aforementioned movements. Major turning conflicts are reduced and signal phase duration is reduced for the main intersection.</p>
Median U-Turn		<p>Similar to the RUTC, the Median U-Turn intersection eliminates left turning vehicles from both the minor and major roadways and requires a u-turn movement at a signalized u-turn intersection.</p>
Displaced Left-Turn Interchange		<p>A DLT interchange is a new design that is similar to the at-grade DLT intersection and the Diverging Diamond Interchange (DDI), taking design concepts from both. The design includes four intersections: 2 at the left-turn crossover points and 2 at the ramp terminals of the interchange.</p>
Diverging Diamond Interchange		<p>The diverging diamond interchange (DDI) operates similarly to a traditional diamond interchange. However, left-turning vehicles are combined with through movement vehicles and then crossed over to the ramp terminal, eliminating the need for a left-turn phase. Left-turning vehicles exit the through movement traffic flow on to the ramp terminal, and through movement traffic is crossed over again to the correct side of the roadway.</p>

Alternative Intersection Concept: Partial Displaced Left-Turn





Next Steps

EVALUATION OF ALTERNATIVES

