
MINERAL AVENUE

CORRIDOR STUDY



INTRODUCTION

- City Personnel
- Sign-in Sheet
- Comment Forms
 - Please Write Down Any Comments



INTRODUCTION

- List of Topics for Presentation
 - Project Purpose
 - Data Collection
 - Data Assessment
 - Potential Solutions
 - Nonviable Solutions
 - Next Steps
- Q&A



PROJECT WEBSITE

The screenshot shows the Littleton Colorado website. At the top, there is a navigation bar with links for News, Calendar, Careers, Rumor Guard, City Code, Contact Us, and Translate. The main header features the Littleton logo with the tagline 'ANYTHING BUT LITTLE' and the word 'COLORADO' in large letters. Below the header is a navigation menu with options: HOME, COMMUNITY, CITY LEADERSHIP, DEPARTMENTS, Littleton ROCKS!, and I WANT TO... A search bar is located to the right of the menu.

The left sidebar contains a tree view of the website's structure:

- Public Works
 - Public Works Projects
 - Staff Directory
 - Click & Fix Littleton
 - Snow Removal
 - Sewer and Storm Drainage
 - Streets
- Transportation Management
 - Mineral Ave Corridor Assessment
 - Study Description
 - Maps & Exhibits
 - Community Meetings
 - Data Collection
 - Evaluation & Analysis
 - Schedule
 - Solutions & Implementations
 - Implementation Costs
 - Notification & Feedback

The main content area displays the 'Mineral Avenue Corridor Assessment' page. It includes a breadcrumb trail: [Departments](#) > [Public Works](#) > [Transportation Management](#). The page title is 'Mineral Avenue Corridor Assessment'. Below the title are options for font size and social sharing. The main text reads: 'In order to keep concerned residents and interested members of the community aware of the progress and up to date on the process regarding the Mineral Avenue Corridor Assessment, the city has created this webpage. Periodic updates will be provided during the course of the study, including:'

- information presented at community meetings and a summary of the discussions
- data collected with regard to the study
- any analysis completed in evaluating the corridor
- potential solutions as they are identified
- any changes to the schedule
- other relevant information identified through the course of the study

Below the list, the text states: 'City staff thanks all the residents who took the time to attend the community meeting held at the Meadowbrook Club House January 27, 2016 to discuss concerns regarding the Mineral Avenue corridor between Platte Canyon Road and Polo Ridge Drive. We hope moving forward that more members of the surrounding community, especially in the Meadowbrook, Polo Reserve-Polo Ridge Farms, Polo Reserve-The Sanctuary, Overlook at the Platte Valley, The Overlook Plateau, Pinnacle at Mountain Gate and Outlook (The Meadows at Platte Valley) neighborhoods, join the discussions as the city uses this opportunity to assess the operations and conditions along Mineral Avenue.'

The final paragraph reads: 'The city will continue to notify interested residents via email of information as more is added to this Mineral Avenue Corridor Assessment webpage. If you are not sure we currently have your information, please provide the preferred contact as directed below.'


PROJECT PURPOSE

Provide a safe environment for all users of the Mineral Avenue corridor between Platte Canyon Road and Polo Ridge Drive.

- Goals – Established based on Concerns Expressed by Residents
 - Primary Goal: evaluate the current level of safety and operations in order to improve the efficiency and safety for all users of the corridor
 - Secondary Goals: providing accessibility for the adjacent City of Littleton neighborhoods, while accommodating efficient flow for all users through the corridor
 - Users: pedestrians, bicyclists, transit operators, cars and service vehicles
- Process
 - Community Meetings
 - Data Collection, Assessment & Solutions
 - Recommendations to City Council

STUDY AREA

Legend:

-  - Meadowbrook
-  - Polo Reserve – Polo Ridge Farms
-  - Polo Reserve – The Sanctuary
-  - Overlook at Platte Valley
-  - Pinnacle at Mountain Gate
-  - The Overlook Plateau
-  - Outlook (The Meadows at Platte Valley)
-  - Corridor Study Limits
-  - City of Littleton Limits
-  - Mineral Ave Trail



DATA COLLECTION

- Volumes
- Police Reporting
- Speeds
- Delay
- Land Use
- Transit
- School Buses

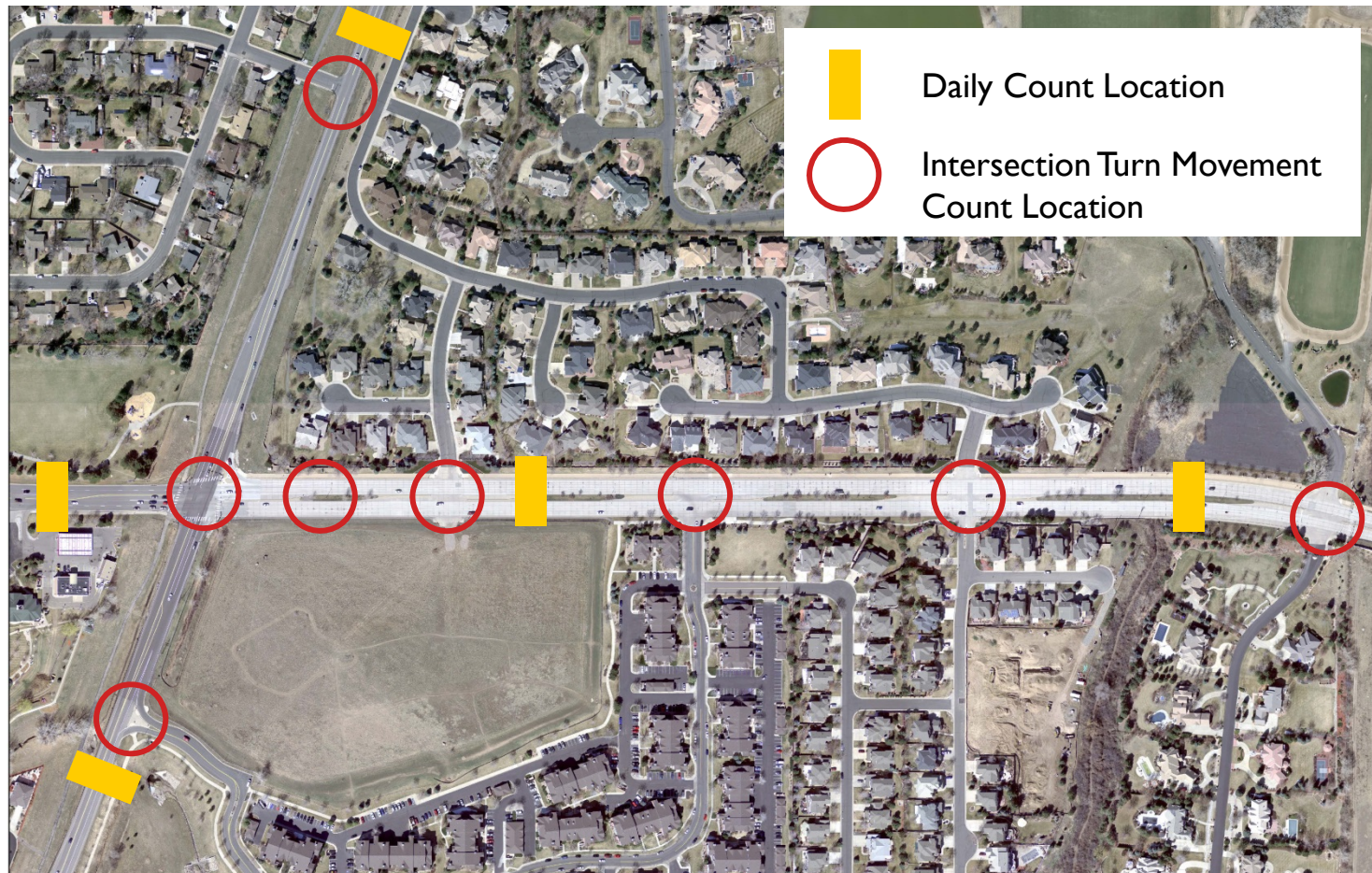


DATA COLLECTION – VOLUMES

- Mineral Avenue & Platte Canyon Road Daily Counts by Day of Week & Hour of Day (5 locations)
 - Mineral Avenue ADT – 27,850
 - Platte Canyon Road ADT – 11,500
- Intersection Turn Movement Counts (8 locations)



DATA COLLECTION – VOLUMES



DATA COLLECTION – POLICE REPORTING

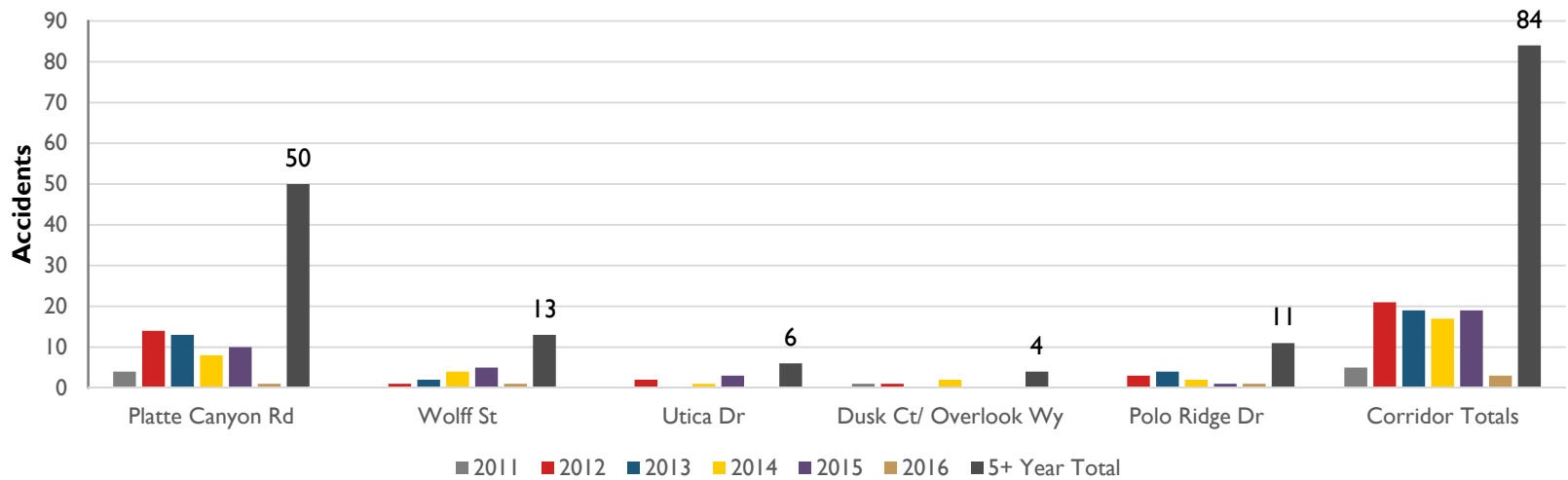
- Police Enforcement
 - Speeding, Illegal Movements, etc.
 - Mineral Avenue Corridor Citations Issued (2011 through 2016) – 150
- Corridor Accidents
 - January 1, 2011 through May 11, 2016
 - 84 Total Accidents at 5 Intersections



DATA COLLECTION – ACCIDENTS

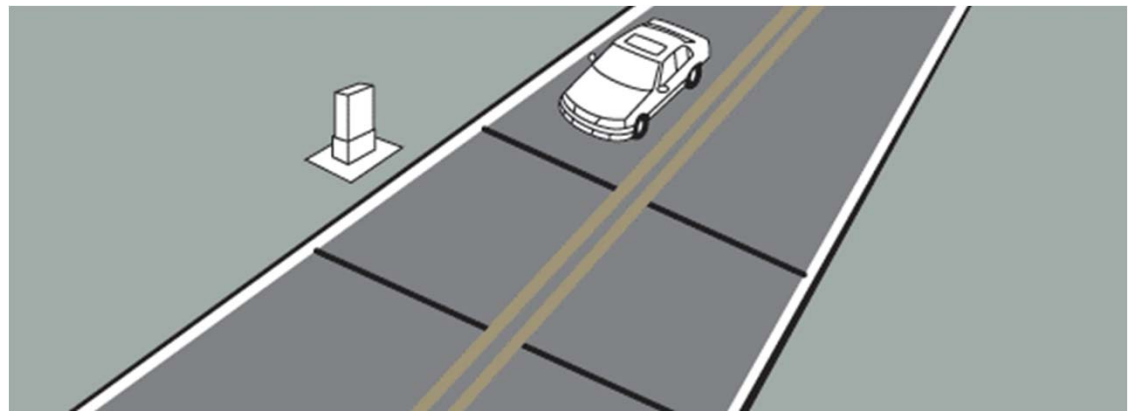


Mineral Avenue Corridor Accidents

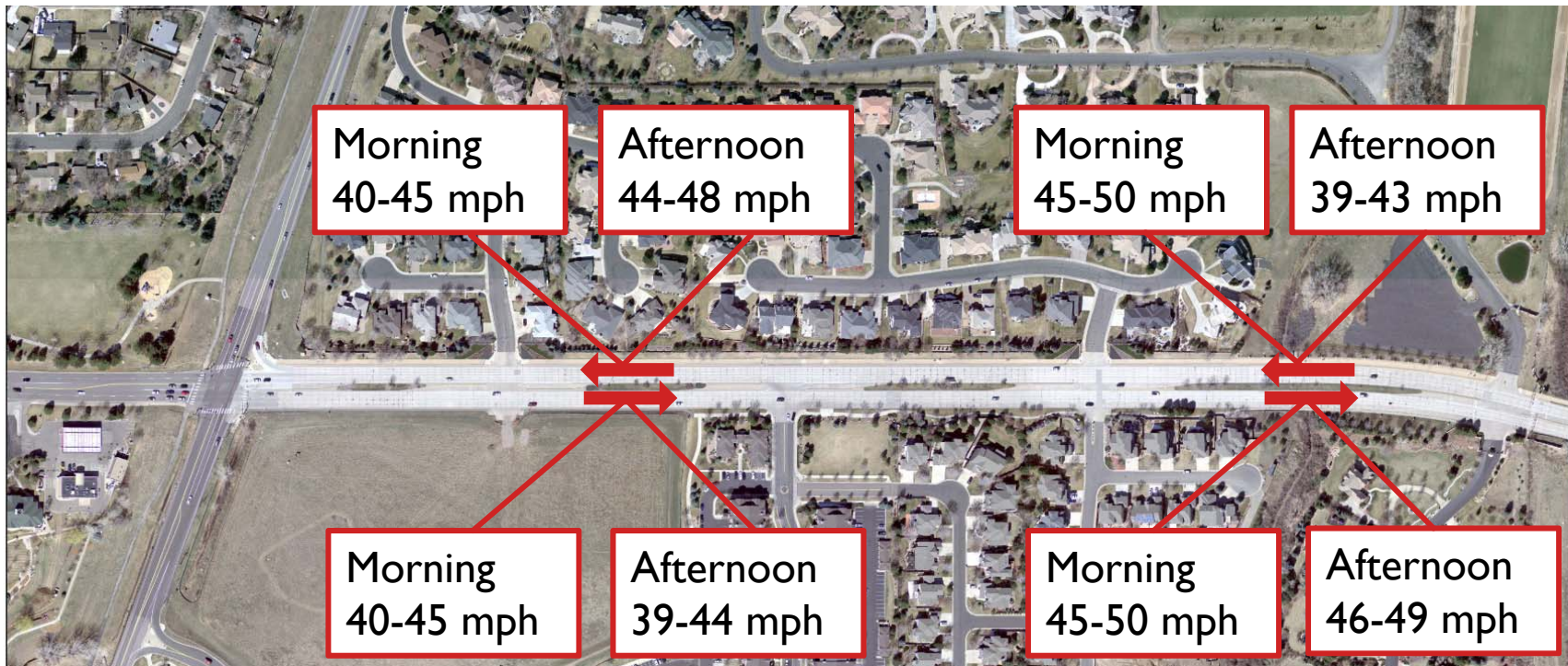


DATA COLLECTION – SPEEDS

- Methods of Collection
 - Tubes (weeks)
 - Speed Radar Trailer (day)
 - Spot Radar Gun Checks (several days)
 - Drive Along Observations (several days)
- Results by Location



DATA COLLECTION – SPEEDS



DATA COLLECTION – DELAYS

- Left Turn Movement Observations
 - Out of & Into Neighborhoods
 - Morning & Afternoon Peak
 - Several Days
- Results



DATA COLLECTION – DELAYS

14(9) – Morning (Afternoon) Average
Seconds of Delay per Vehicle
Observed



DATA COLLECTION – LAND USES

Mountain Gates Apartments

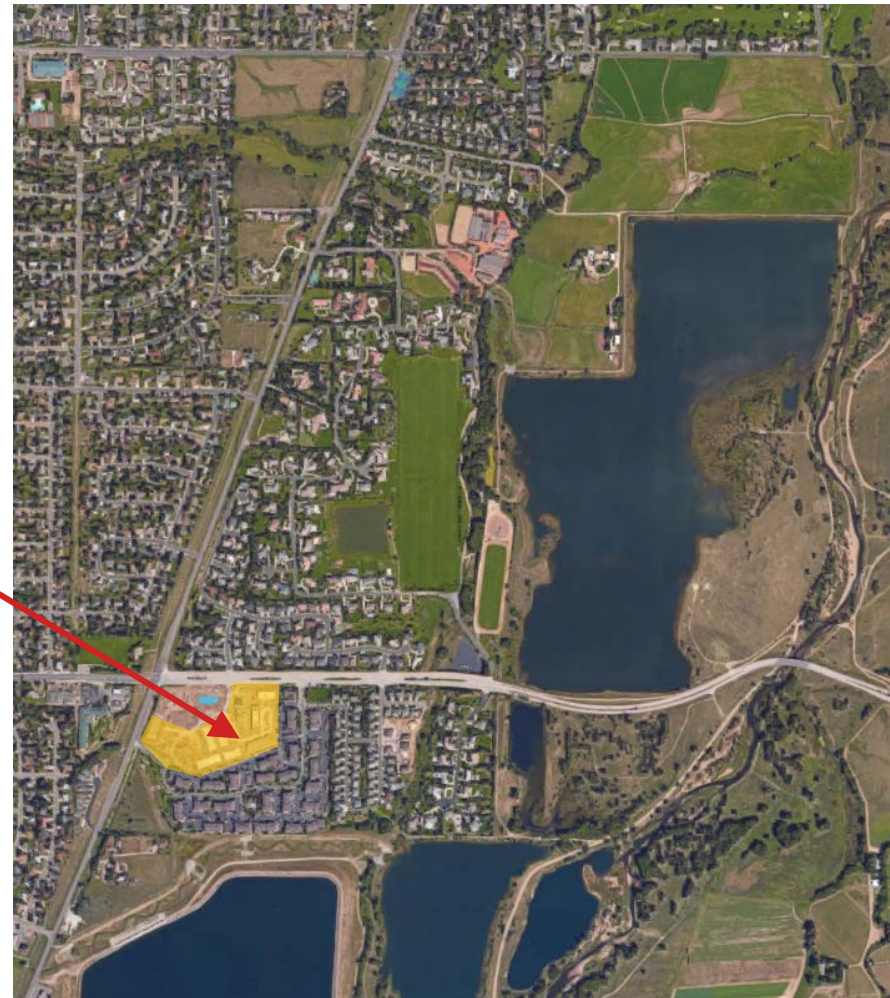
- 450 Units
- 95% Occupancy



DATA COLLECTION – LAND USES

Outlook Apartments

- Opened Summer 2015
- 200 Units
- 93% Occupancy



DATA COLLECTION – LAND USES

Retail

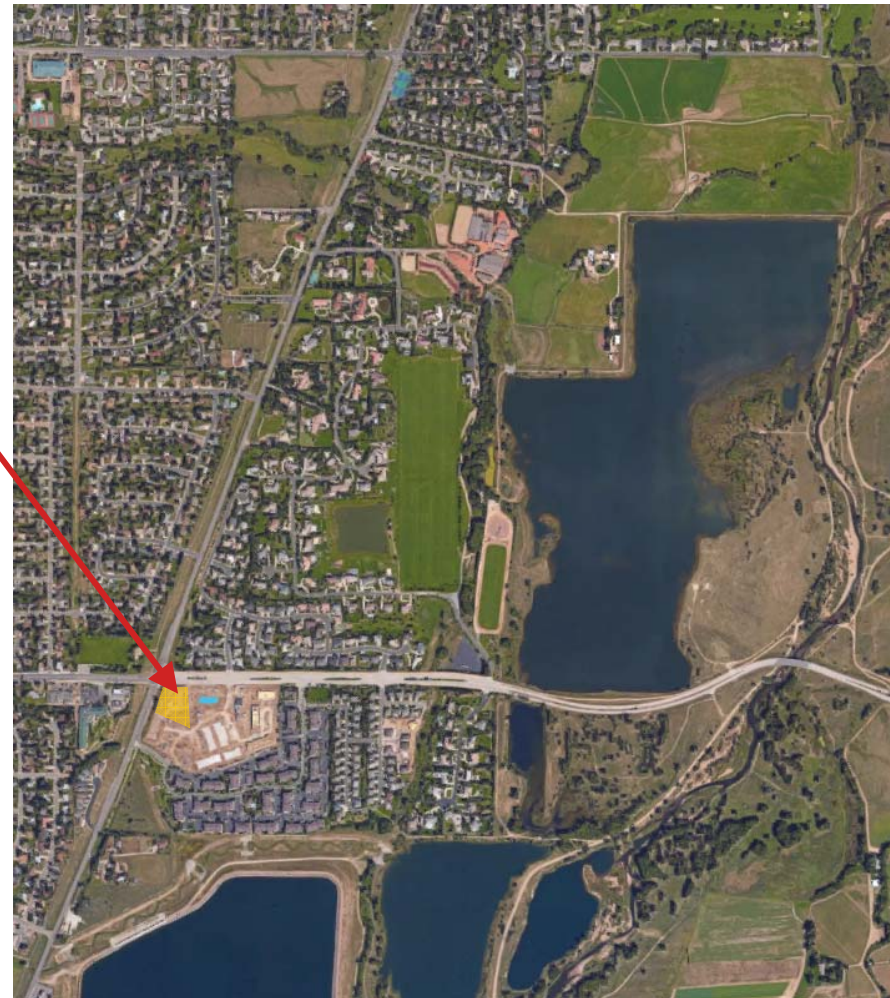
- Opened Early 2015
- 5 Units
- Dunkin Donuts, Subway, King Liquor, Super Cuts, Unoccupied



DATA COLLECTION – LAND USES

Little Sunshine's Playhouse & Preschool

- Opened May 2016
- 120 Maximum Students
- 60% Occupancy at Opening



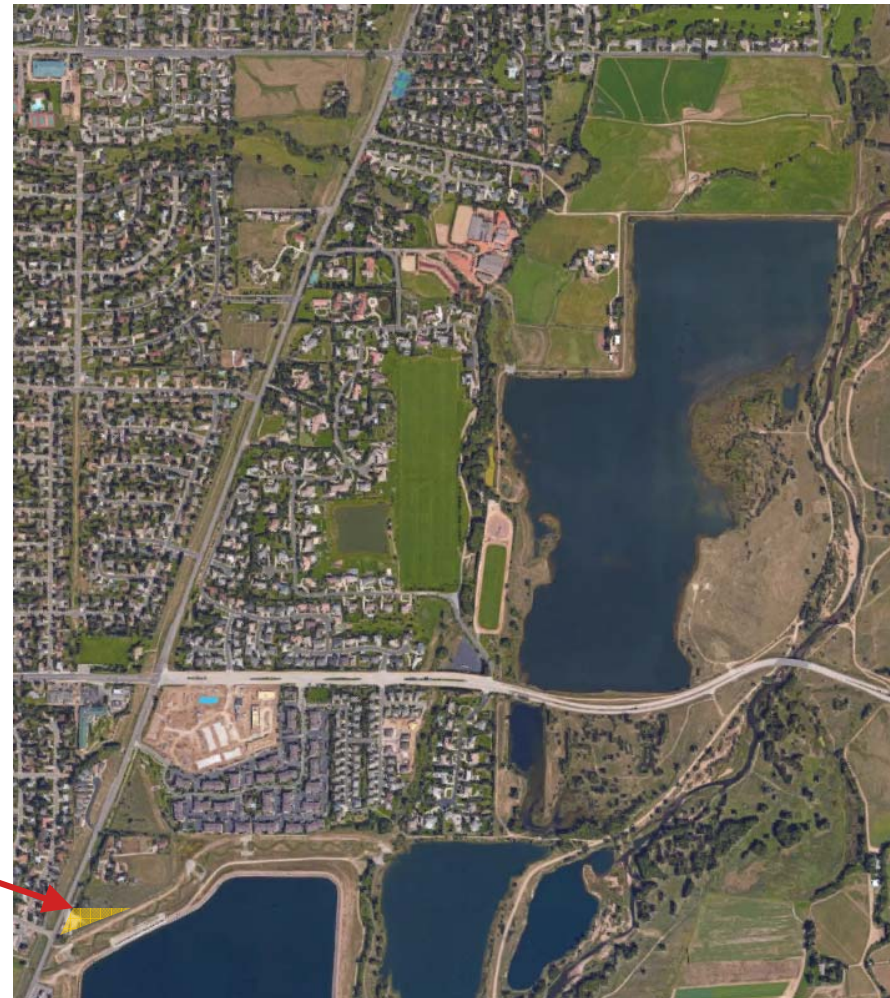
DATA COLLECTION – LAND USES

Wild Plum Farms

- 105 Single Family Homes
- Mineral Avenue Trips: 100 daily; 8 am peak; 10 pm peak



DATA COLLECTION – LAND USES



Lakeview Estates at Platte Canyon

- 62 Townhouse Units
- Mineral Avenue Trips: 150 daily;
11 am peak; 15 pm peak

DATA COLLECTION – TRANSIT BUSES

- Two RTD routes along Mineral Avenue – 77 & 85
- 34 total eastbound trips and 33 westbound trips by buses per weekday
- 10 trips during the morning rush hour (5 eastbound, 5 westbound)
- 10 trips during the evening rush hour (5 eastbound, 5 westbound)



DATA COLLECTION – SCHOOL BUSES

- 7 Buses in Morning; 7 Buses in Afternoon
- Routes throughout neighborhoods strategically turning on Mineral Avenue
- No issues or concerns expressed by LPS



DATA ASSESSMENT

- Volume Concern
- Accident Concern
- Speed Concern
- Delay Concern



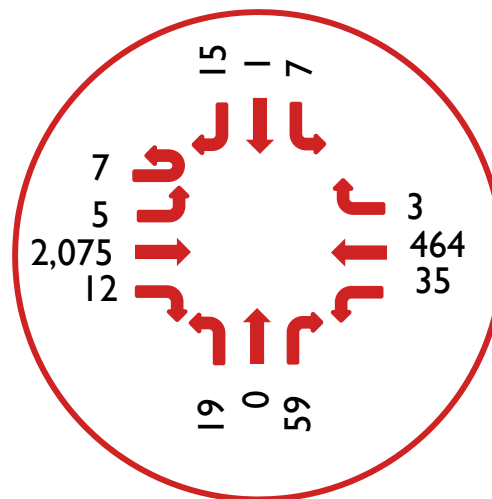
DATA ASSESSMENT – VOLUMES

- Concerns
 - Growing Commuter Traffic on Mineral Avenue
 - Meadows at Platte Valley (Retail & Outlook Apartments) Trips at Wolff Street
- Mineral Avenue ADTs

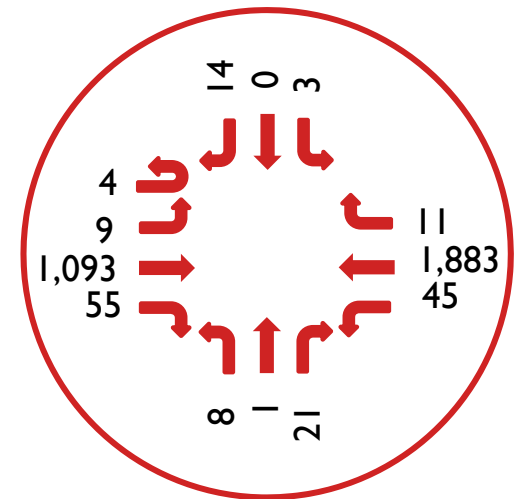
- 2013 – 29,650
- 2015 – 29,050
- 2016 – 28,500

- Mineral Avenue & Wolff Street Intersection Turn Movements

Morning Peak Hour



Afternoon Peak Hour

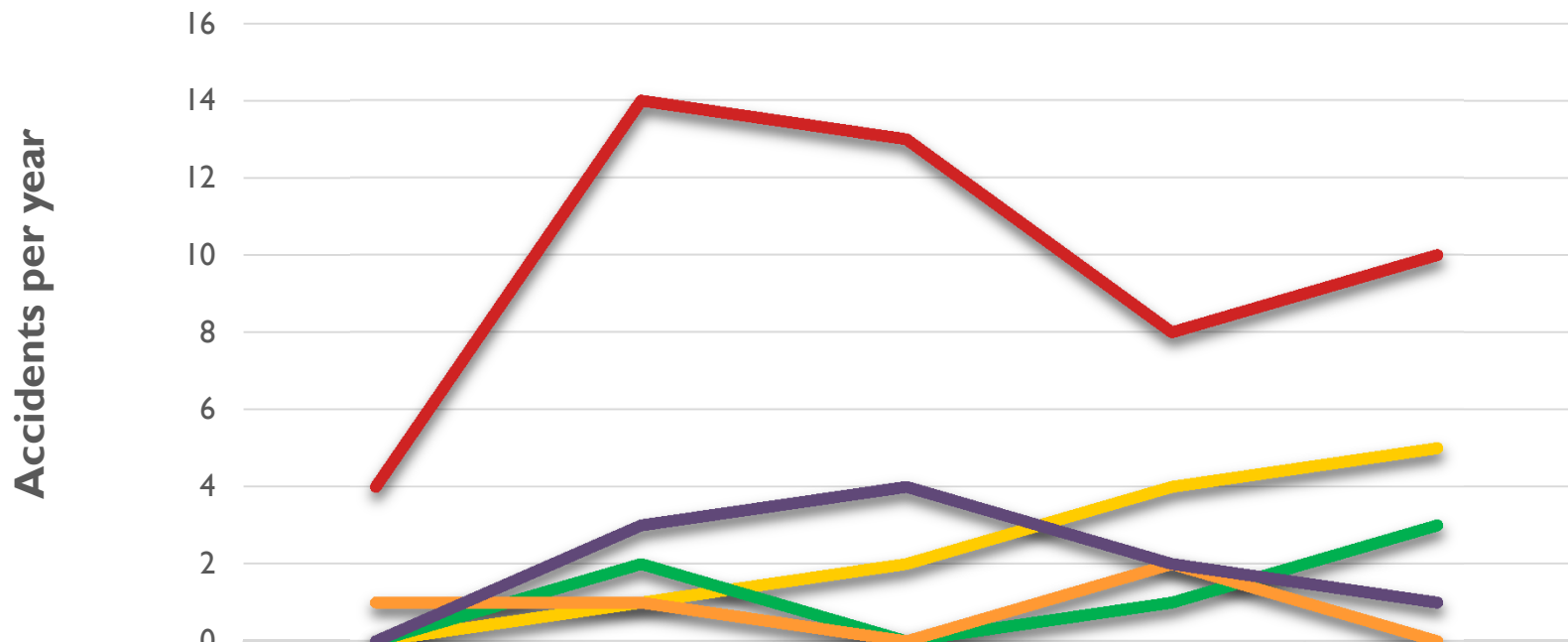


DATA ASSESSMENT – ACCIDENTS

- Concerns
 - Growing Number of Accidents Along the Mineral Avenue Corridor
 - Severity of Accidents Along the Mineral Avenue Corridor



DATA ASSESSMENT – ACCIDENT TRENDS



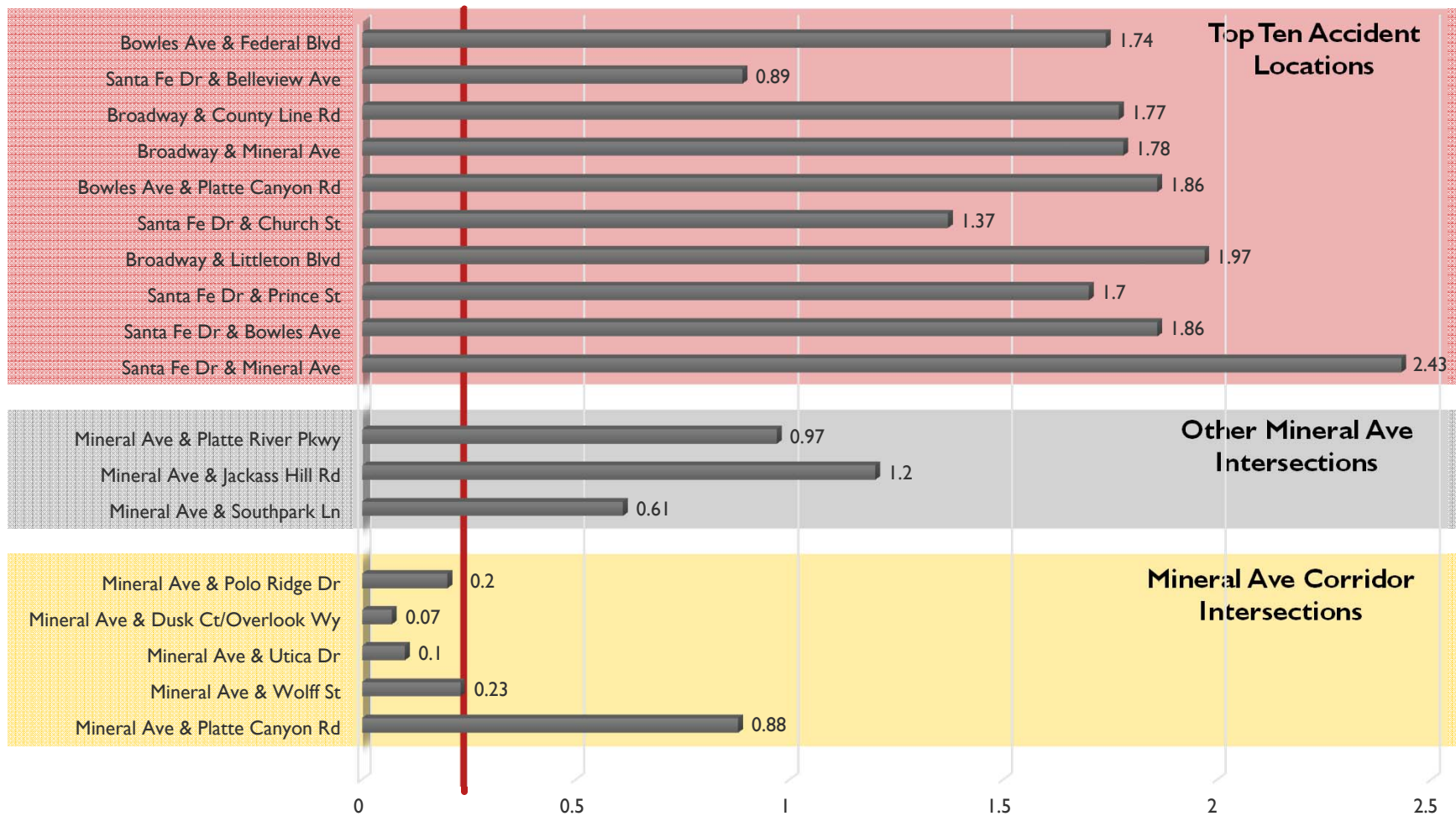
	2011	2012	2013	2014	2015
Platte Canyon Rd	4	14	13	8	10
Wolff St	0	1	2	4	5
Utica Dr	0	2	0	1	3
Dusk Ct/ Overlook Wy	1	1	0	2	0
Polo Ridge Dr	0	3	4	2	1



DATA ASSESSMENT – ACCIDENTS

- Left Turning Accidents
 - Wolff Street – 7 of the 13 Accidents
 - Utica Drive – 3 of the 6 Accidents
 - Dusk Court/Overlook Way – 2 of the 4 Accidents
 - Polo Ridge Drive – 1 of the 11 Accidents
- Severity of Accidents
 - Corridor – 16 Injuries & 0 Fatalities in 5+ Years
 - Wolff St, Utica Dr, Dusk Ct/Overlook Wy, Polo Ridge Dr – 4 Injuries in 5+ Years

DATA ASSESSMENT – ACCIDENT RATES



DATA ASSESSMENT – SPEEDS

- Concerns
 - Traffic travelling too fast creating an unsafe condition along the Mineral Avenue corridor
- Four methods utilized
 - weekly tubes
 - day of speed trailer
 - spot radar gun checks on several days
 - drive along observations on several days
- Findings
 - Reasonable speeds
 - Vast majority of traffic travelling under 50 mph



DATA ASSESSMENT – DELAYS

- Concerns
 - Growing Mineral Avenue Traffic Makes Left Turn Movements Difficult
 - The Ability to Turn Left Into & Out of Neighborhoods
- Peak Hour Volume Comparison
 - Mineral Avenue Traffic – 2,100 (morning) & 3,050 (evening)
 - Total Side Street Left Turning Traffic – 64 (morning) & 35 (evening)
- Peak Period Left Turn Waiting Time
 - Number of Observations – 1,175
 - Typical Acceptable Standard Delay for Unsignalized Left Turn in Peak Hour < 55 sec
 - Observations with Delay >55 sec – 24 (2%)

POTENTIAL SOLUTIONS

- Near & Long Term
- Options Identified to Address Purpose & Goals
 - Safety
 - Concerns Identified by Residents
- Concept Designs
- Opinions Not Recommendations





NEAR TERM SOLUTIONS

1. Mineral Avenue Outside Lane Revisions
2. Mineral Avenue/Platte Canyon Road Intersection Modifications
3. Wolff Street Crossings Minimal Improvements
4. Dusk Court Crossings Minimal Improvements
5. Polo Ridge Drive Crossings Minimal Improvements



LONG TERM SOLUTIONS

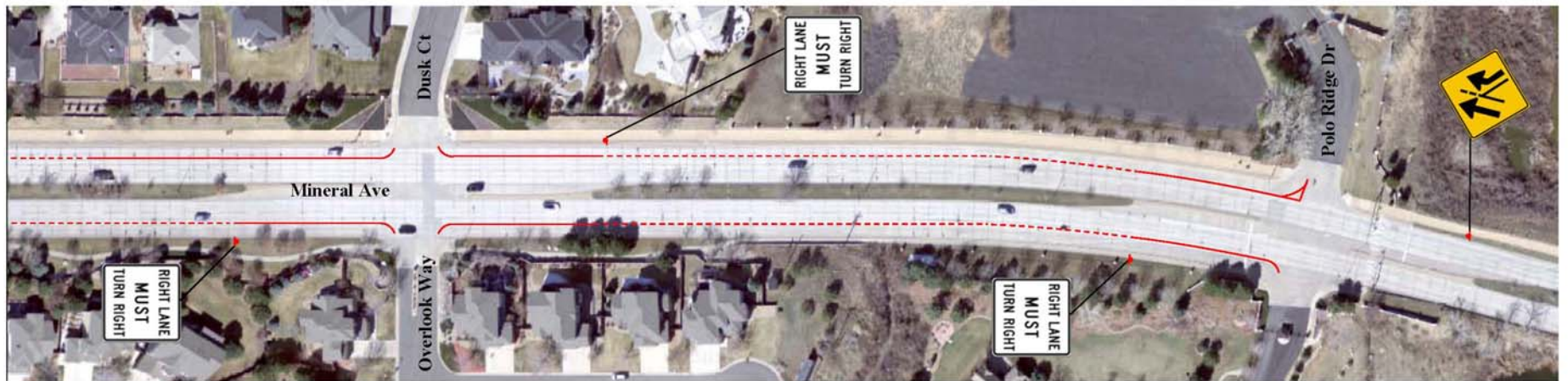
3. Wolff Street Crossing Full Improvements
4. Dusk Court Crossing Full Improvements
5. Polo Ridge Drive Crossing Full Improvements
6. Mineral Drive Full Access to Platte Canyon Road
7. Meadowbrook Additional Access to Platte Canyon Road

I. MINERAL AVE RIGHT TURN LANES

- Considerations
 - Roadway Capacity
 - Operations
 - Outside Lane Speed
- Safety Modifications
 - Exclusive Right Turn Lanes
 - Paint & Signs
- Implementation: Near Term



I. MINERAL AVE RIGHT TURN LANES



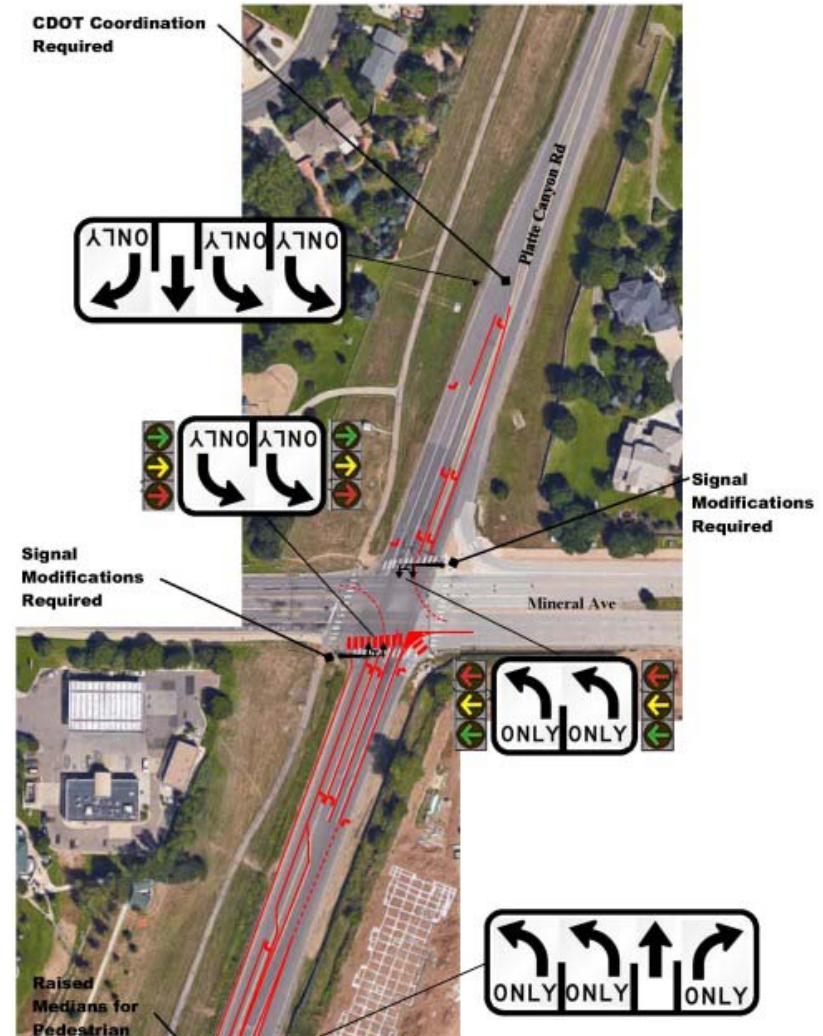
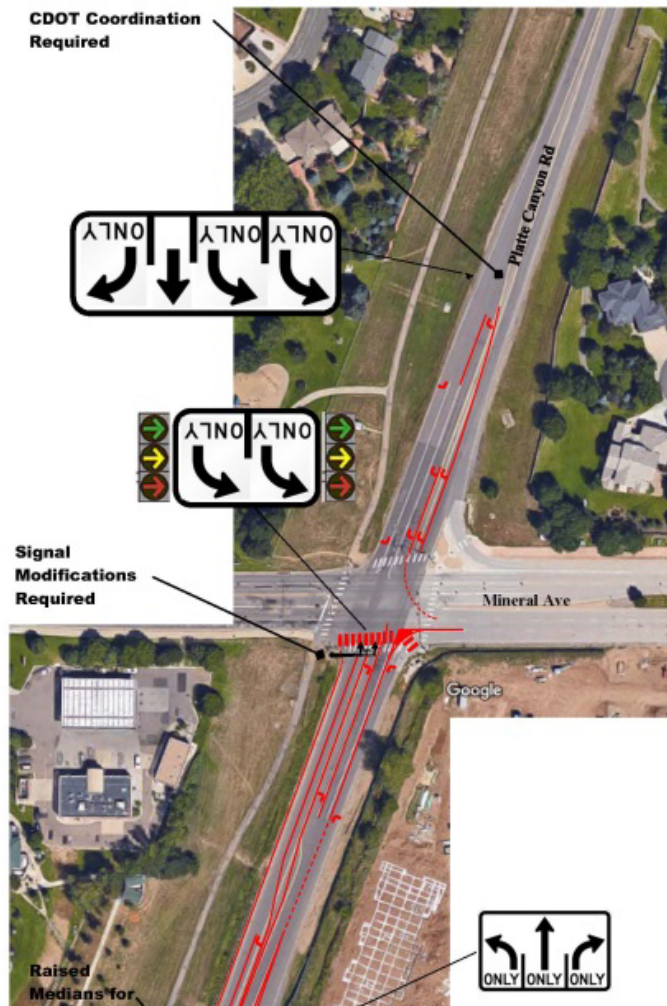
2. PLATTE CANYON RD SECOND LEFT TURN

- Considerations
 - CDOT Approval
 - South Approach Single or Double Left (Options 2A & 2B)
 - Mast Arm Lengths
- Safety Improvements
 - Southeast Corner Median & Crosswalk
 - Paint Markings
 - Lane Control Signs
 - Signal Equipment

- Implementation: Near Term

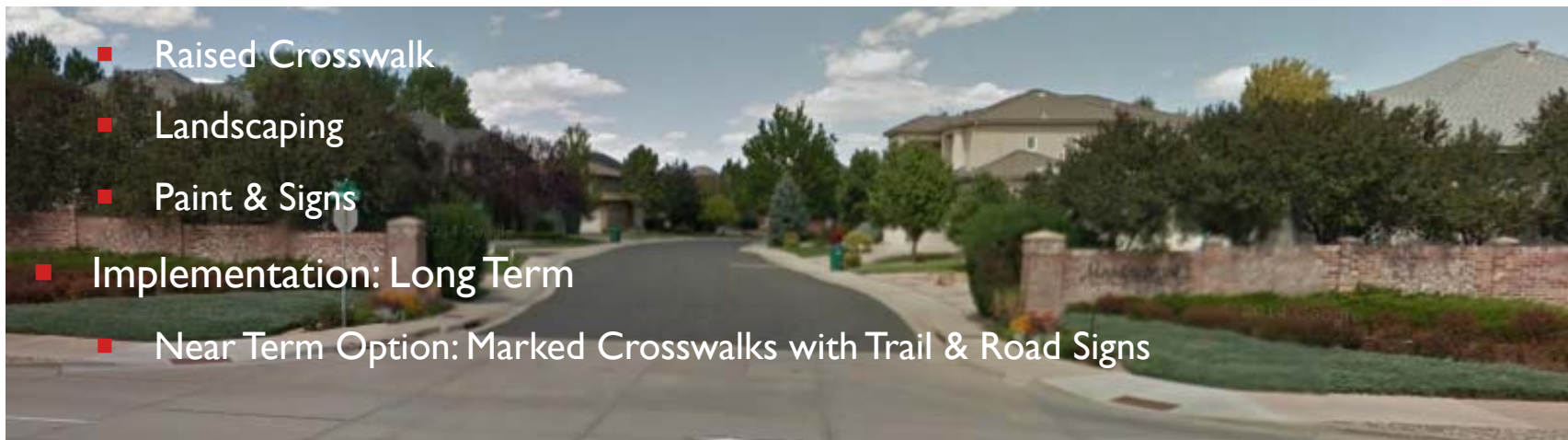


2. PLATTE CANYON RD SECOND LEFT TURN

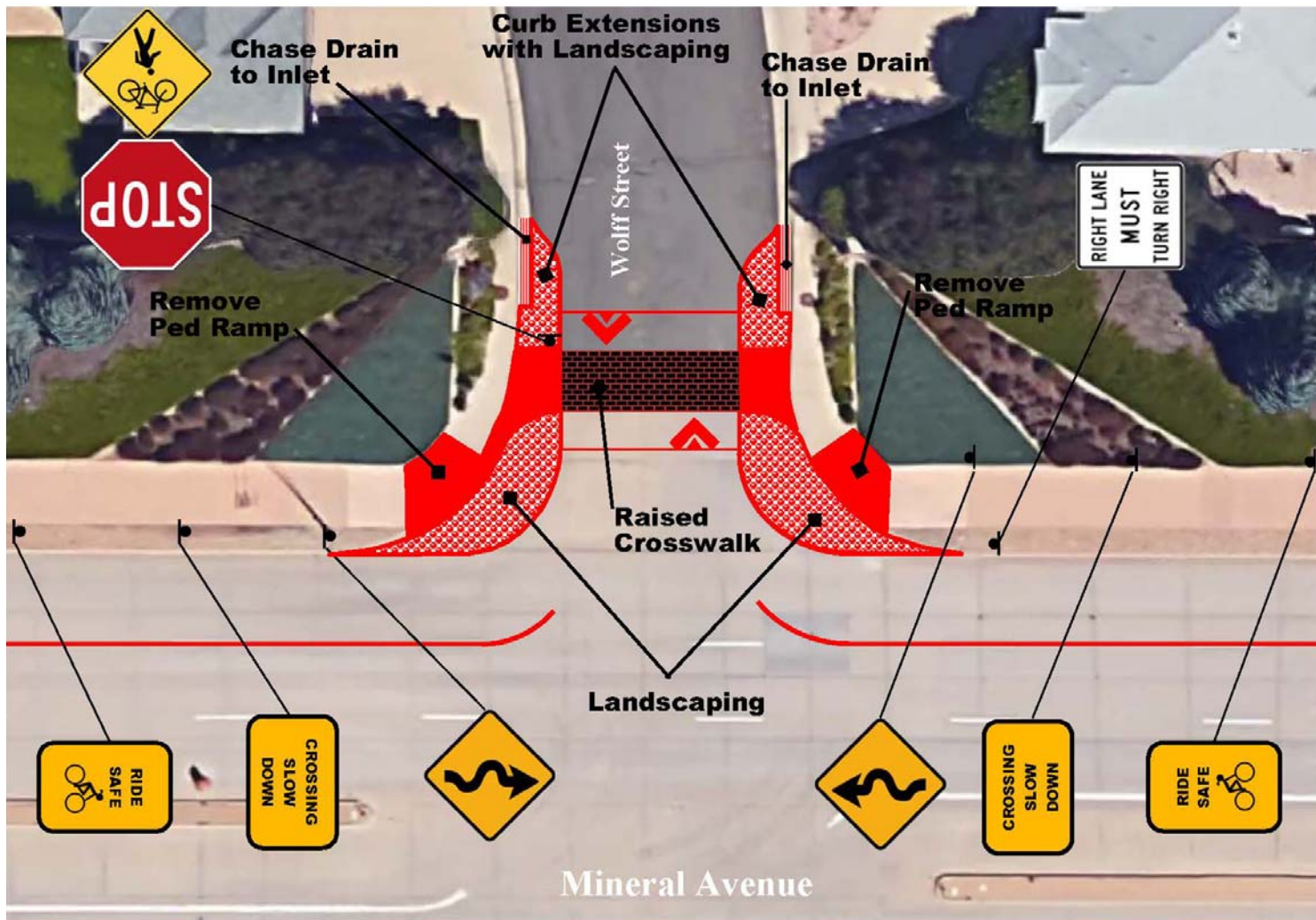


3. WOLFF ST CROSSING IMPROVEMENTS

- Considerations
 - Separating Modes to Cross (Trail & Road)
 - Narrowing Roadway Width
 - Existing Inlets
- Safety Improvements
 - Curb Extensions with Chase Drains



3. WOLFF ST CROSSING IMPROVEMENTS



4. DUSK CT CROSSING IMPROVEMENTS

- Considerations
 - Separating Modes to Cross (Trail & Road)
 - Narrowing Roadway Width

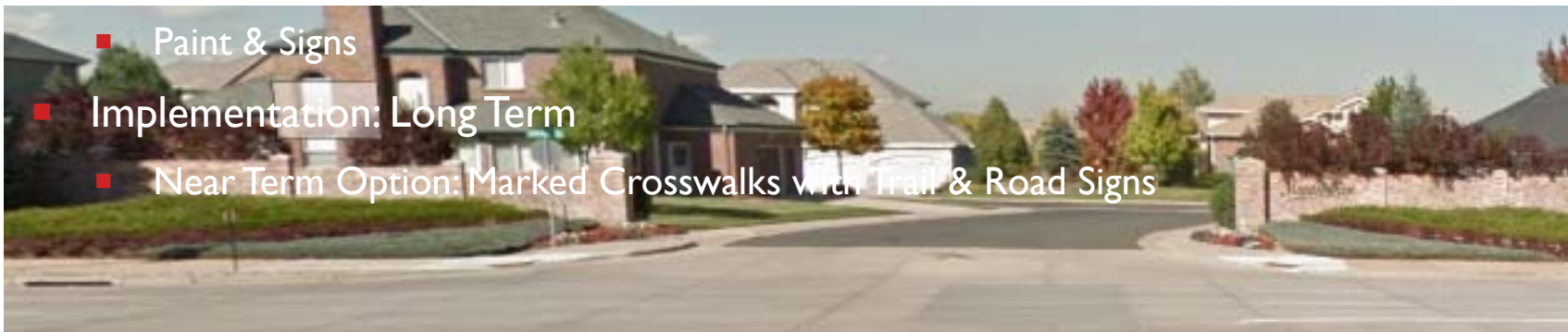
- Safety Improvements

- Curb Extensions
- Raised Crosswalk
- Landscaping

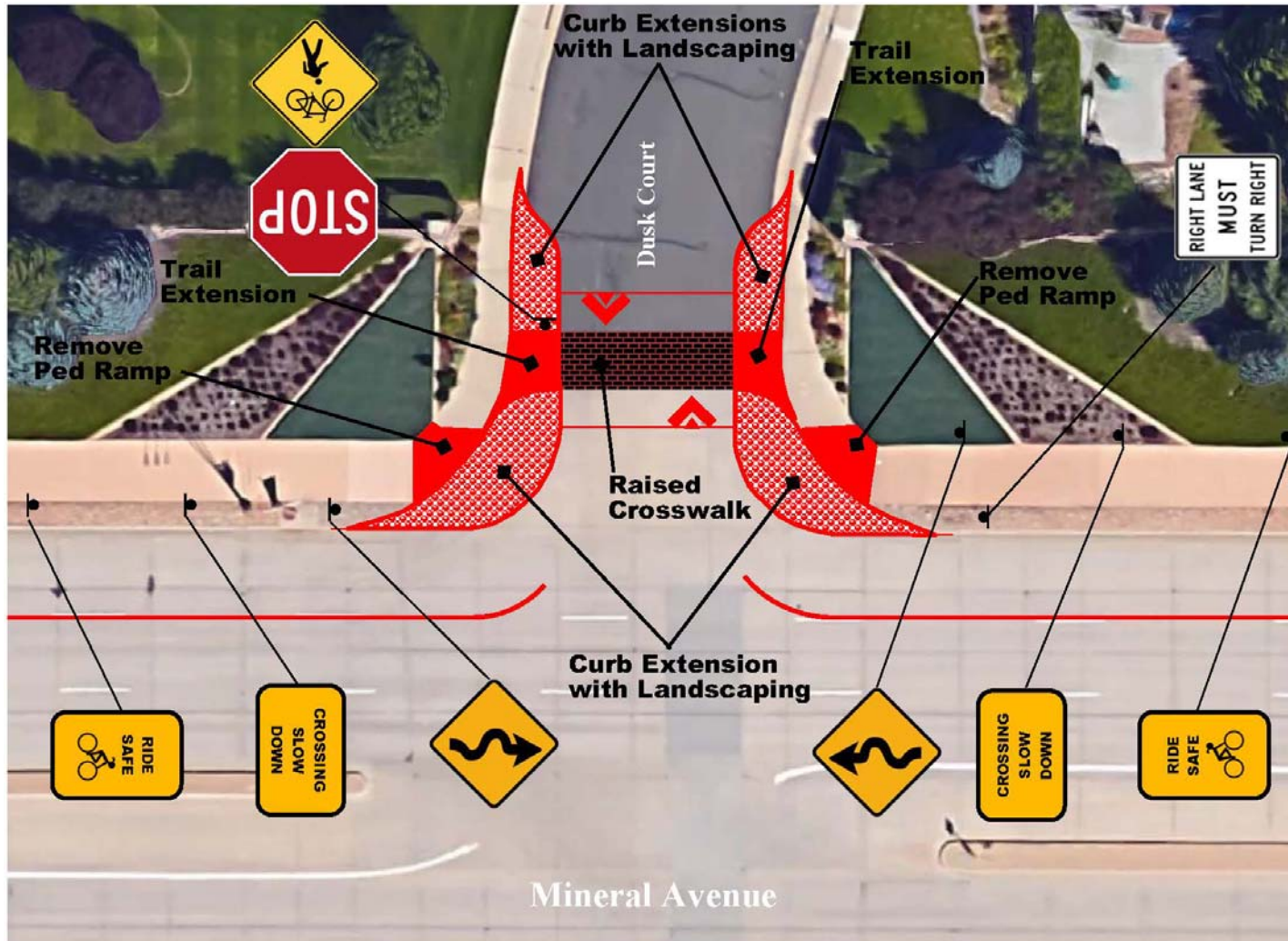
- Paint & Signs

- Implementation: Long Term

- Near Term Option: Marked Crosswalks with Trail & Road Signs



4. DUSK CT CROSSING IMPROVEMENTS



5. POLO RIDGE DR CROSSING IMPROVEMENTS

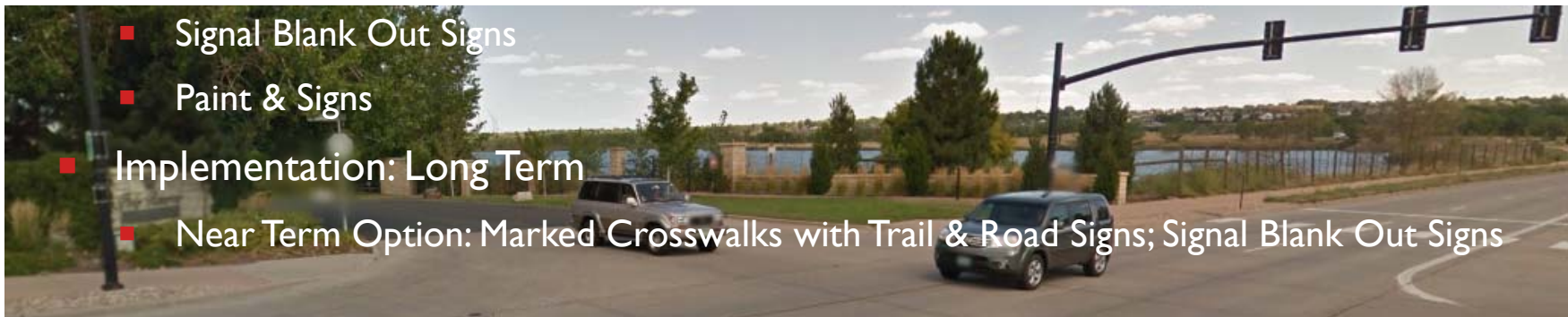
- Considerations
 - Separating Modes to Cross
 - Narrowing Roadway Width
 - Pedestrian Signal Operations
- Safety Improvements
 - Curb Extensions
 - Raised Crosswalk
 - Landscaping

- Signal Blank Out Signs

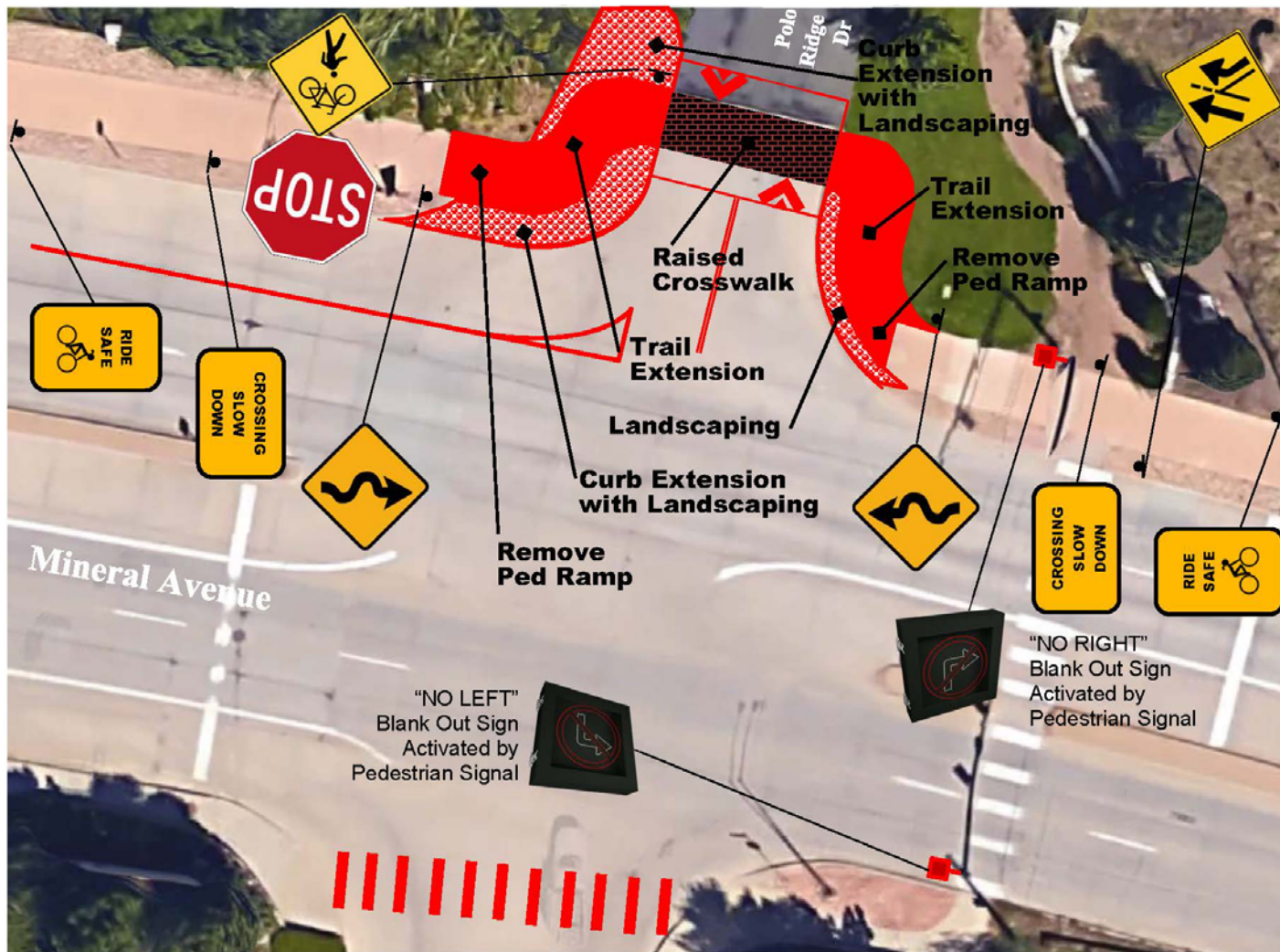
- Paint & Signs

- Implementation: Long Term

- Near Term Option: Marked Crosswalks with Trail & Road Signs; Signal Blank Out Signs



5. POLO RIDGE DR CROSSING IMPROVEMENTS



6. MINERAL DRIVE FULL ACCESS

- Considerations
 - CDOT Approval
 - New Median Islands
 - Pedestrian Crossing of Mineral Drive
- Improvements
 - Median Removal
 - Median Islands
 - Paint & Signs
- Implementation: Long Term



6. MINERAL DRIVE FULL ACCESS



CDOT Coordination Required

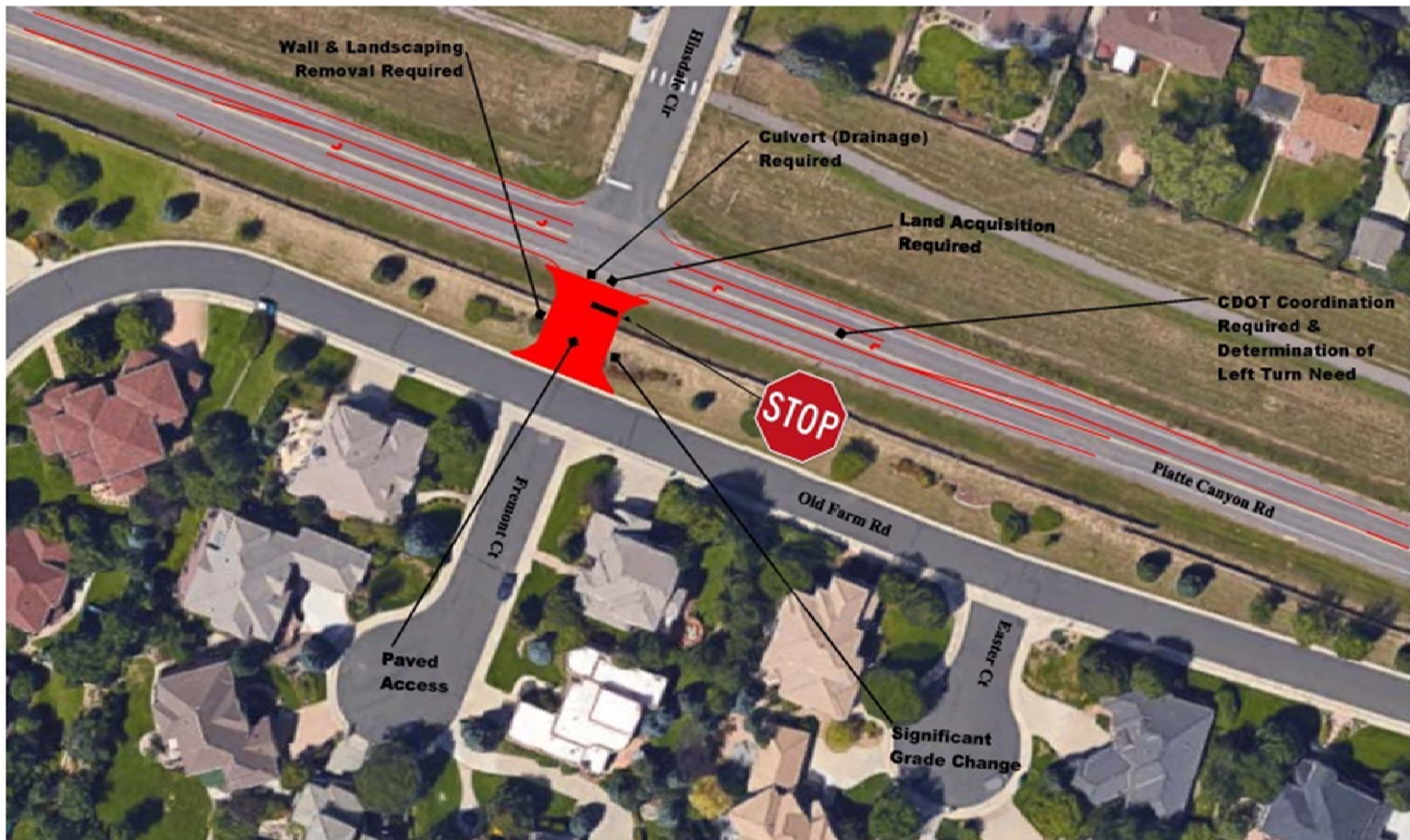
7. MEADOWBROOK ACCESS

- Considerations
 - CDOT Approval
 - Land Acquisition – CDOT, Meadowbrook HOA
 - Location Options – Fremont Court or Easter Court
 - Grade Difference
 - Drainage & Utilities
 - Wall & Landscaping Removal
 - Platte Canyon Road Requirements (NB & SB left turn lanes)

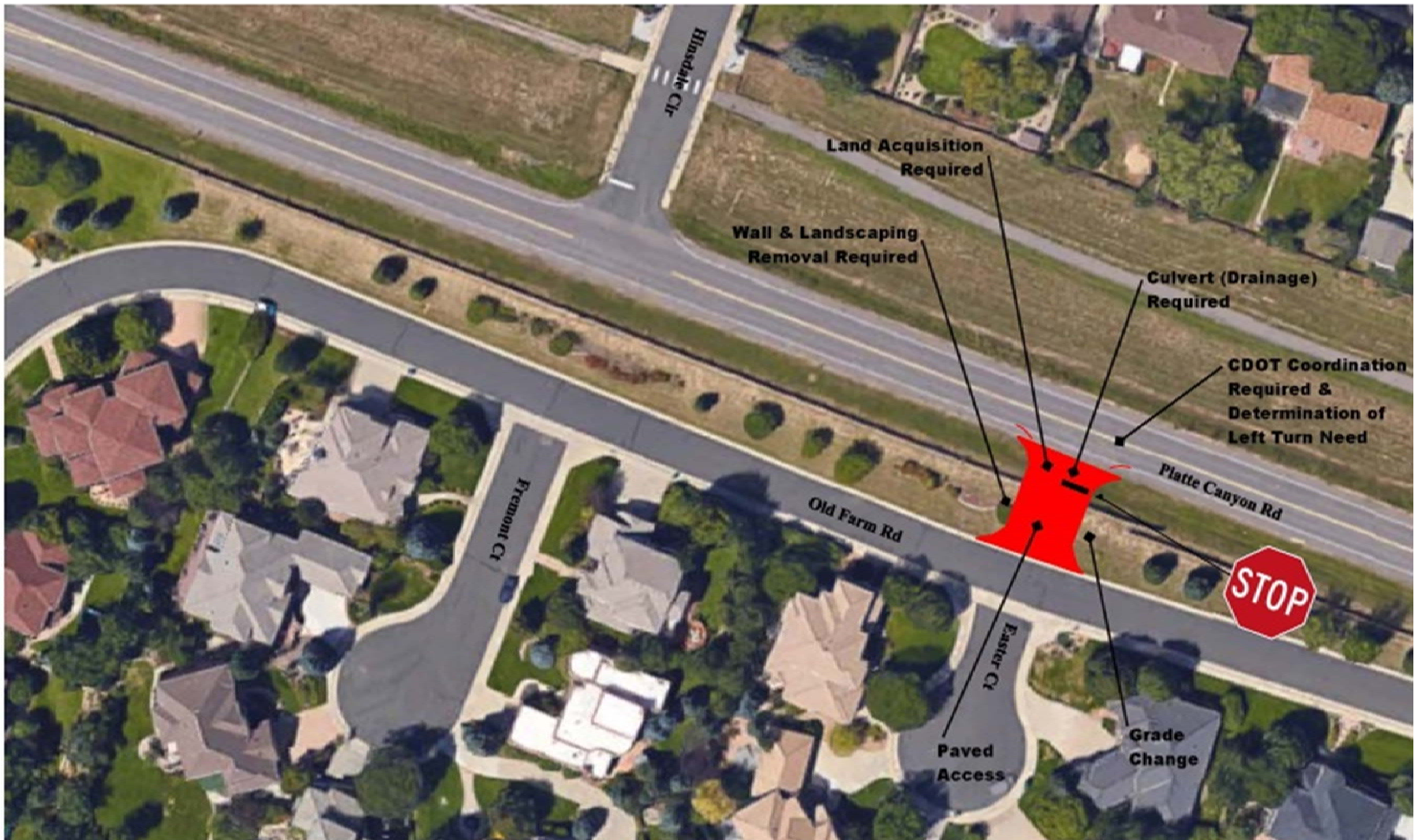
- Safety Improvements
 - Option 1: Fremont Court
 - Option 2: Easter Court
- Implementation: Long Term



7. MEADOWBROOK ACCESS – FREMONT CT



7. MEADOWBROOK ACCESS – EASTER CT





NONVIABLE SOLUTIONS

1. Traffic Signal at Wolff Street
2. Pedestrian Signal Modifications to Traffic Signal
3. Mineral Avenue Center Acceleration Lanes

I. TRAFFIC SIGNAL AT WOLFF STREET

- Signal Warrants Not Met Based National Standards
- City Liable for Unwarranted Signals
- Increased Accidents
- Operational Issues with Spacing to Platte Canyon Road
- Significant Cost (\$250 – 400K)



2. PEDESTRIAN SIGNAL MODIFICATIONS

- Warrants Not Met
- Significant Cost (\$150 – 300K)



3. MINERAL AVENUE CENTER ACCELERATION

- Requires Removing Median Islands
- Minimal Benefit Compared to Cost
- Changes Feel of Corridor



NEXT STEPS

- Cost Estimating
- Budgeting
- Schedule
- Installation
- Next Meeting



ADDITIONAL COMMENTS OR QUESTIONS

- Please Fill Out a Comment Form

