# TWGS Engineering

Daybreak Parkway Couplet Project

# Outline

- Scope
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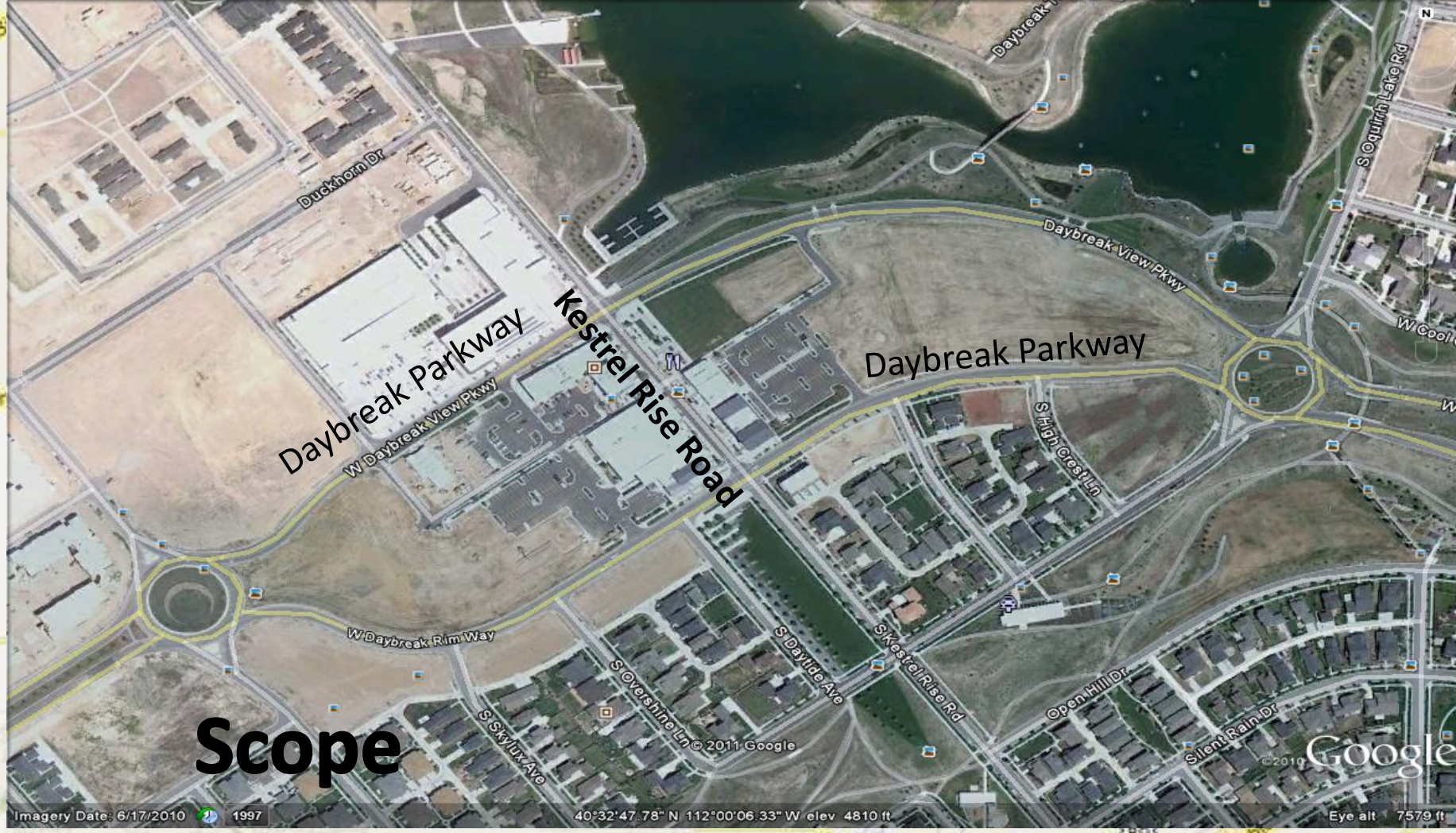
- Conclusion

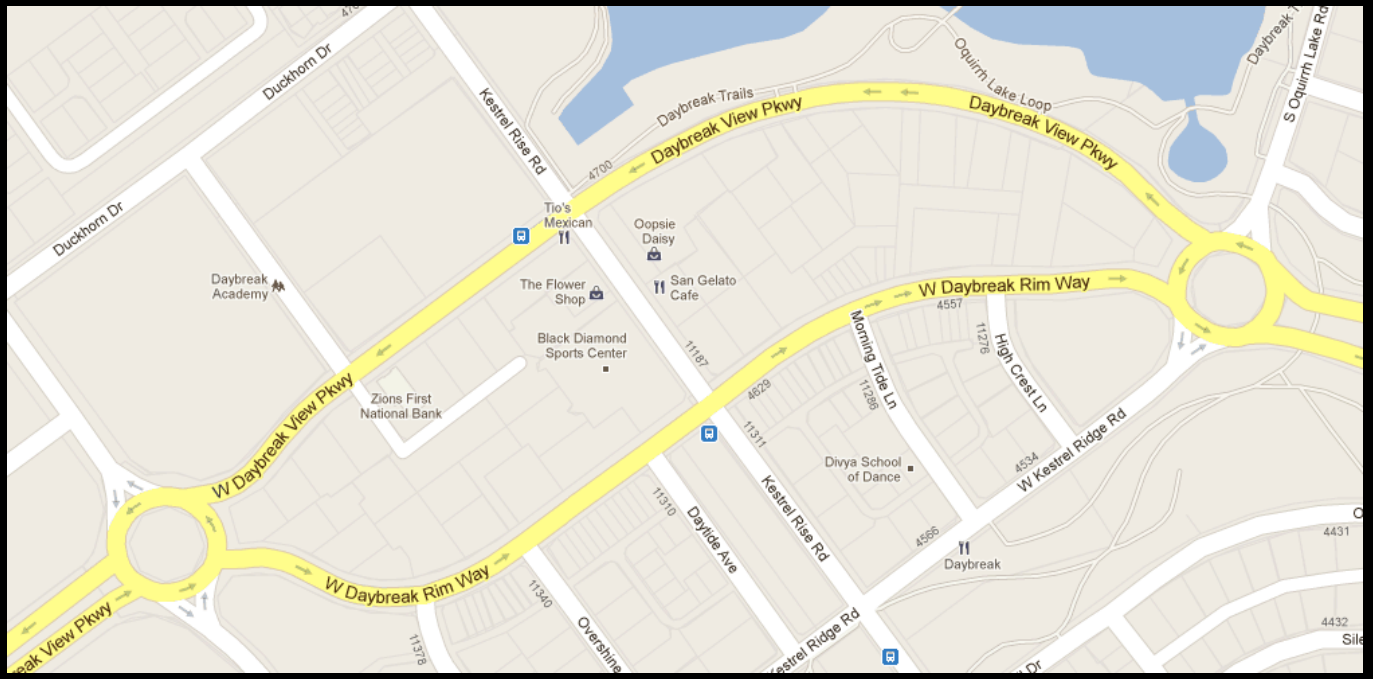



# Scope

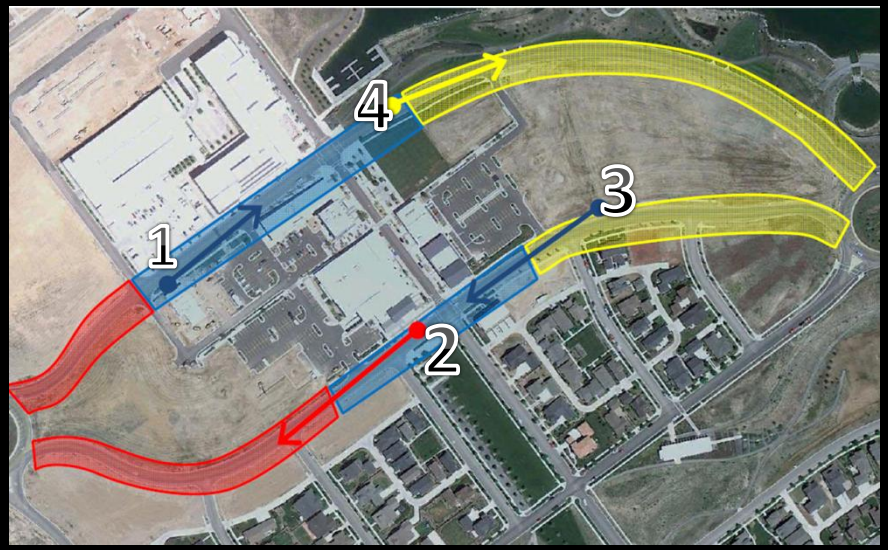
- Daybreak Parkway couplet
  - Current speed limit is 35 mph
  - Final target speed limit is 25 mph

# Data Collection





# Data Analysis




**Location 1**

**WB Daybreak Parkway in front of RioTinto Corp Center**

| | Kennecott Data | | TWGS Data | | | |
|---|---|---|---|---|---|---|
| **Date:** | 11/2/2011 | | 2/4/2012 | | 2/9/2012 | |
| **Time Period:** | 12:30 - 1:30 pm | | 3:23pm - | | 5:03pm - | |
| **Total # of Observations:** | 337 | | 100 | | 100 | |
| **# of Buses:** | 1 | | N/A | | N/A | |
| **# of Trucks:** | 32 | | N/A | | N/A | |
| **Mean Speed:** | 29.7 | mph | 30.5 | mph | 31.67 | mph |
| **85% Speed:** | 34 | mph | 35 | mph | 36 | mph |
| **Highest Observed:** | 50 | - 1 vehicles | 40 | 1-vehicles | 45 | 1-vehicles |
| **Lowest Observed:** | 16 | - 3 vehicles | 18 | 2-vehicles | 17 | 1-vehicles |

**Location 2**

**EB Daybreak Parkway near Lake Run Rd**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Date:** | 11/1/2011 | | 2/4/2012 | | 2/10/2012 | |
| **Time Period:** | 4:25 - 4:55 pm | | 4:00pm - | | 7:15am - | |
| **Total # of Observations:** | 291 | | 100 | | 100 | |
| **# of Buses:** | 5 | | N/A | | N/A | |
| **# of Trucks:** | 1 | | N/A | | N/A | |
| **Mean Speed:** | 38.9 | mph | 28.7 | mph | 33.79 | mph |
| **85% Speed:** | 42 | mph | 34 | mph | 37.85 | mph |
| **Highest Observed:** | 54 | - 1 vehicle | 37 | 2-vehicles | 46 | 1-vehicles |
| **Lowest Observed:** | 25 | - 1 vehicle | 15 | 1-vehicles | 25 | 2-vehicles |

**Location 3**

**EB Daybreak Rim Way near Kestrel Rise Rd Area**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Date:** | 11/1/2011 | | 2/4/2012 | | 2/10/2012 | |
| **Time Period:** | 3:20 - 4:20 pm | | 4:45pm - | | 7:45am - | |
| **Total # of Observations:** | 550 | | 100 | | 100 | |
| **# of Buses:** | 4 | | N/A | | N/A | |
| **# of Trucks:** | 11 | | N/A | | N/A | |
| **Mean Speed:** | 33.3 | mph | 31.1 | mph | 34.1 | mph |
| **85% Speed:** | 36 | mph | 35 | mph | 38 | mph |
| **Highest Observed:** | 44 | - 3 vehicles | 44 | 1-vehicles | 42 | 2-vehicles |
| **Lowest Observed:** | 25 | - 3 vehicles | 13 | 1-vehicles | 28 | 2-vehicles |

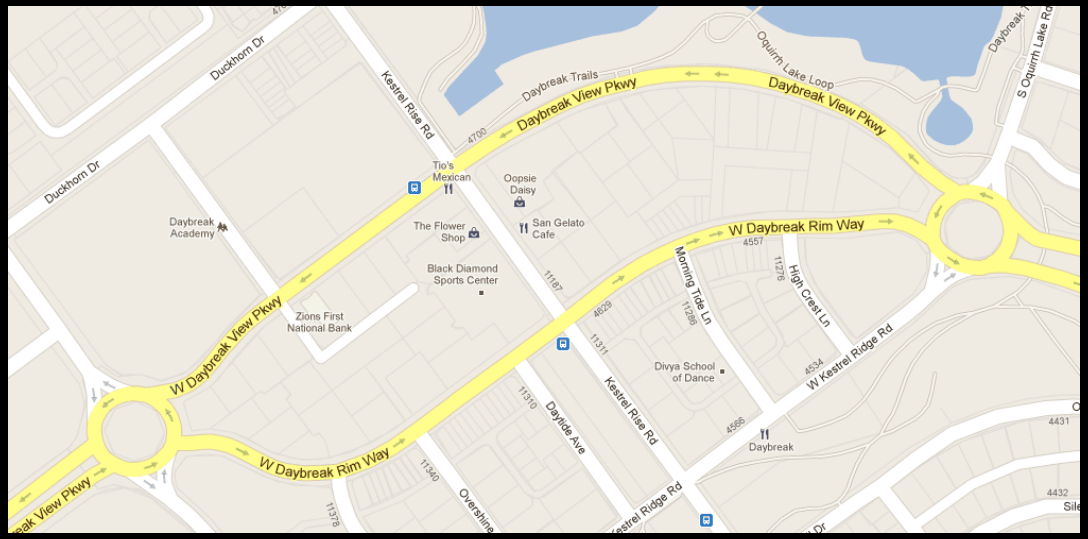
**Location 4**

**WB Daybreak Parkway East of SoDa Row Area**

| | | | | | | |
|---|---|---|---|---|---|---|
| **Date:** | 11/1/2011 | | 2/4/2012 | | 2/9/2012 | |
| **Time Period:** | 2:10 - 3:10 pm | | 5:23pm - | | 5:38pm - | |
| **Total # of Observations:** | 409 | | 100 | | 100 | |
| **# of Buses:** | 10 | | N/A | | N/A | |
| **# of Trucks:** | 11 | | N/A | | N/A | |
| **Mean Speed:** | 35.1 | mph | 31.7 | mph | 33.36 | mph |
| **85% Speed:** | 38 | mph | 37 | mph | 37 | mph |
| **Highest Observed:** | 45 | - 2 vehicles | 44 | 1-vehicles | 45 | 1-vehicles |
| **Lowest Observed:** | 20 | - 1 vehicle | 17 | 1-vehicles | 24 | 1-vehicles |

# Other Analysis

- Signal Warrants
  - Peak Hour
  - Pedestrian
- Level of Service
  - Intersection LOS
- Stopping Sight Distance
  - Parallel Parking Concerns
- Accident Rate

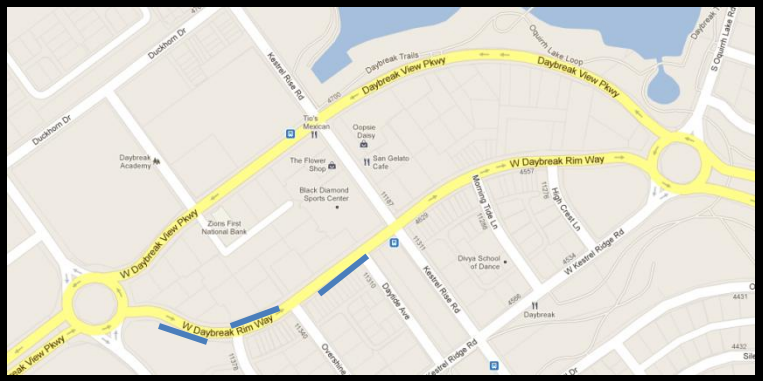


# Methods Considered

Stop Light

Bike Lane


60 degree parking



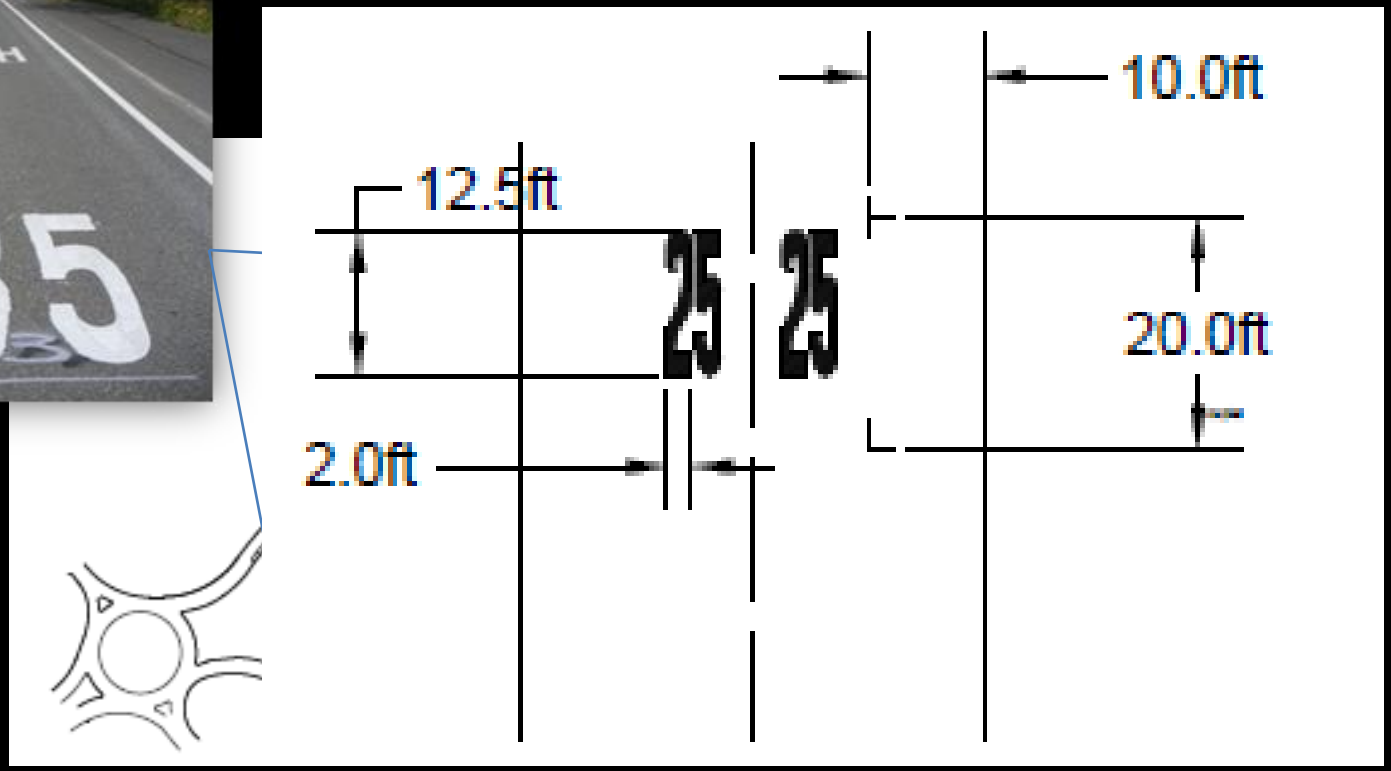

Dragon’s teeth

Speed Tables

# Recommended Design Components

$1,600

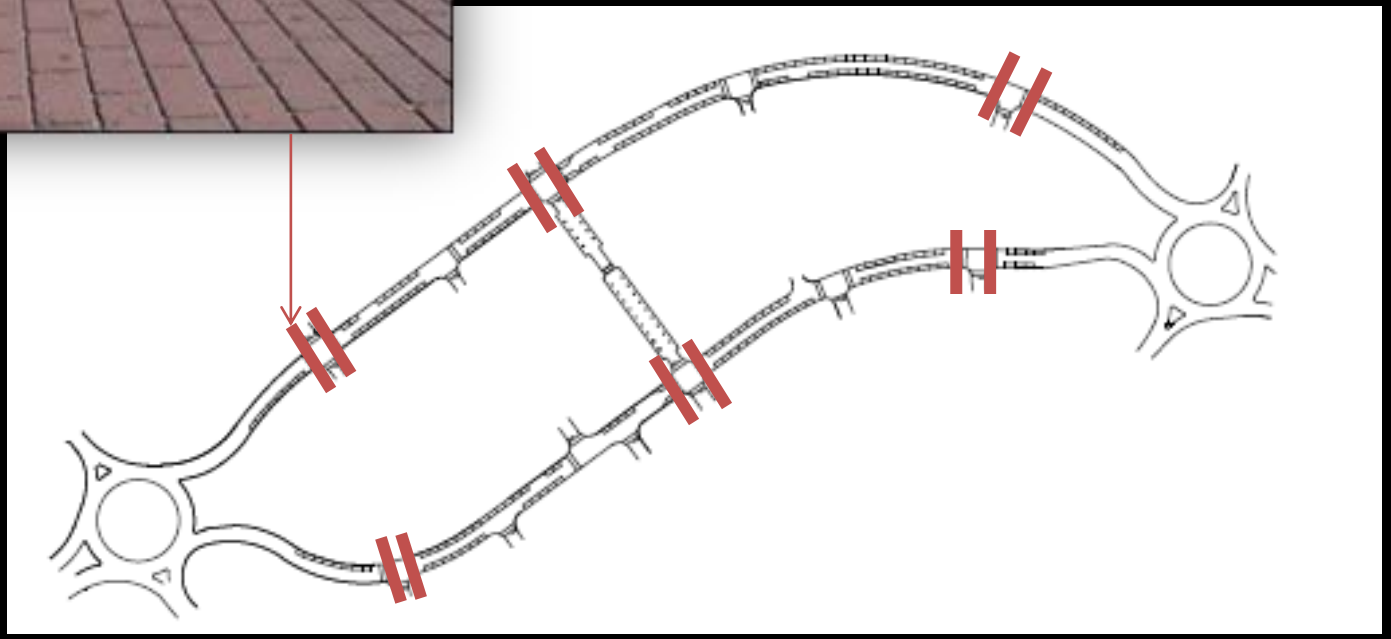
## Transverse Speed Limit Markings

# Recommended Design Components

$60,000

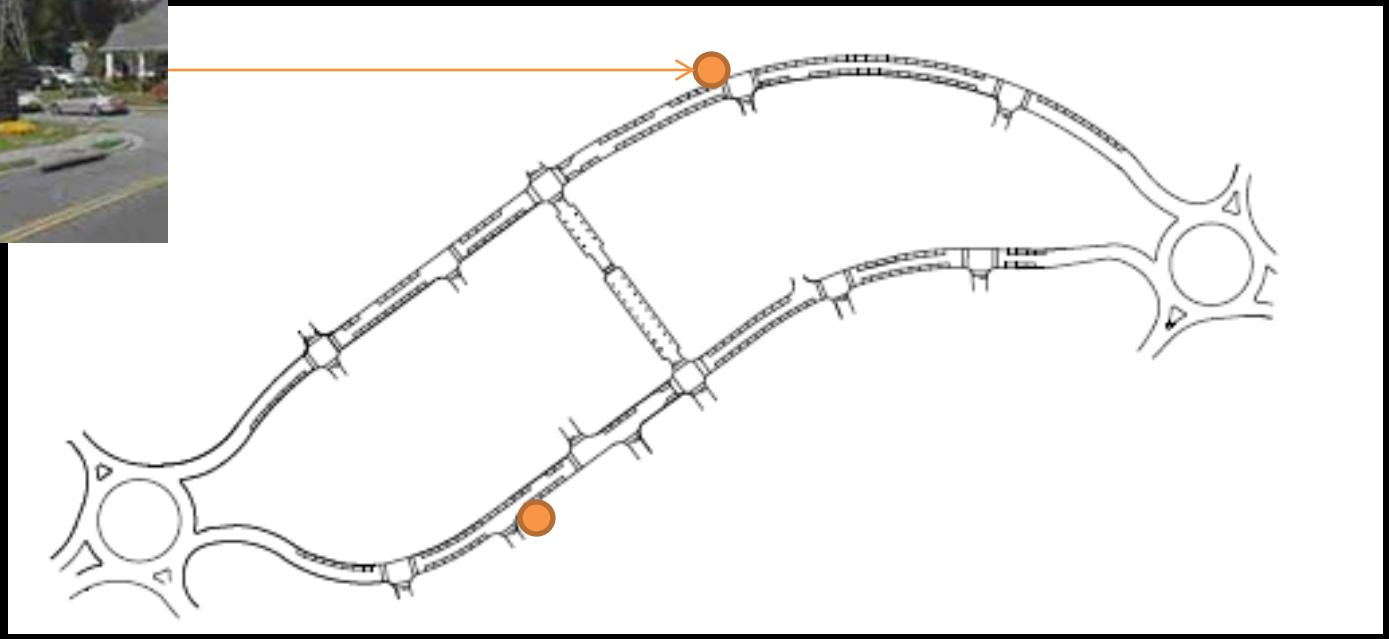
## Textured Crosswalks



# Recommended Design Components

$5,000

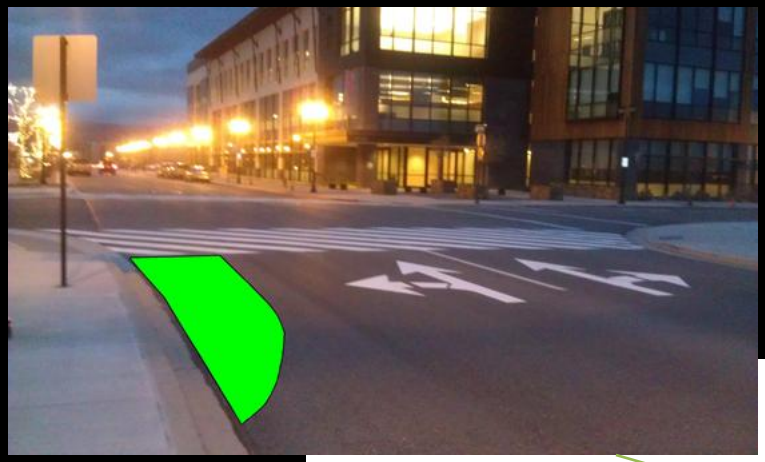
## Driver Feedback Signs

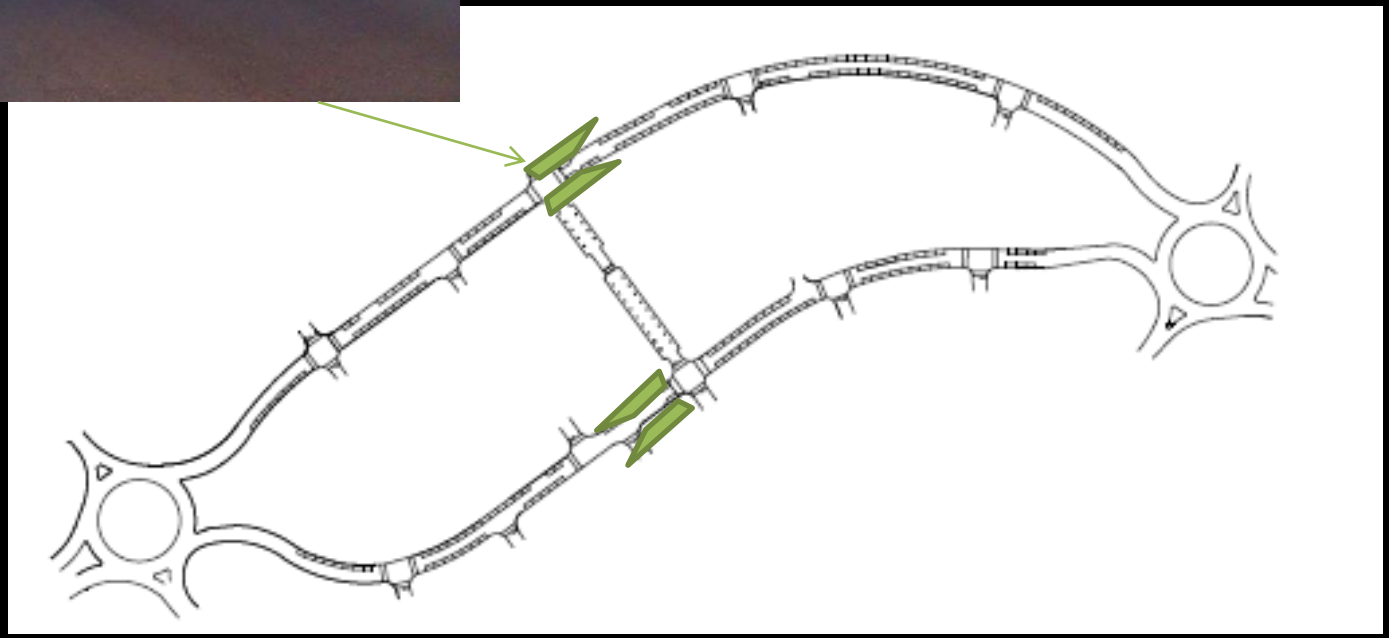



# Recommended Design Components

$35,000

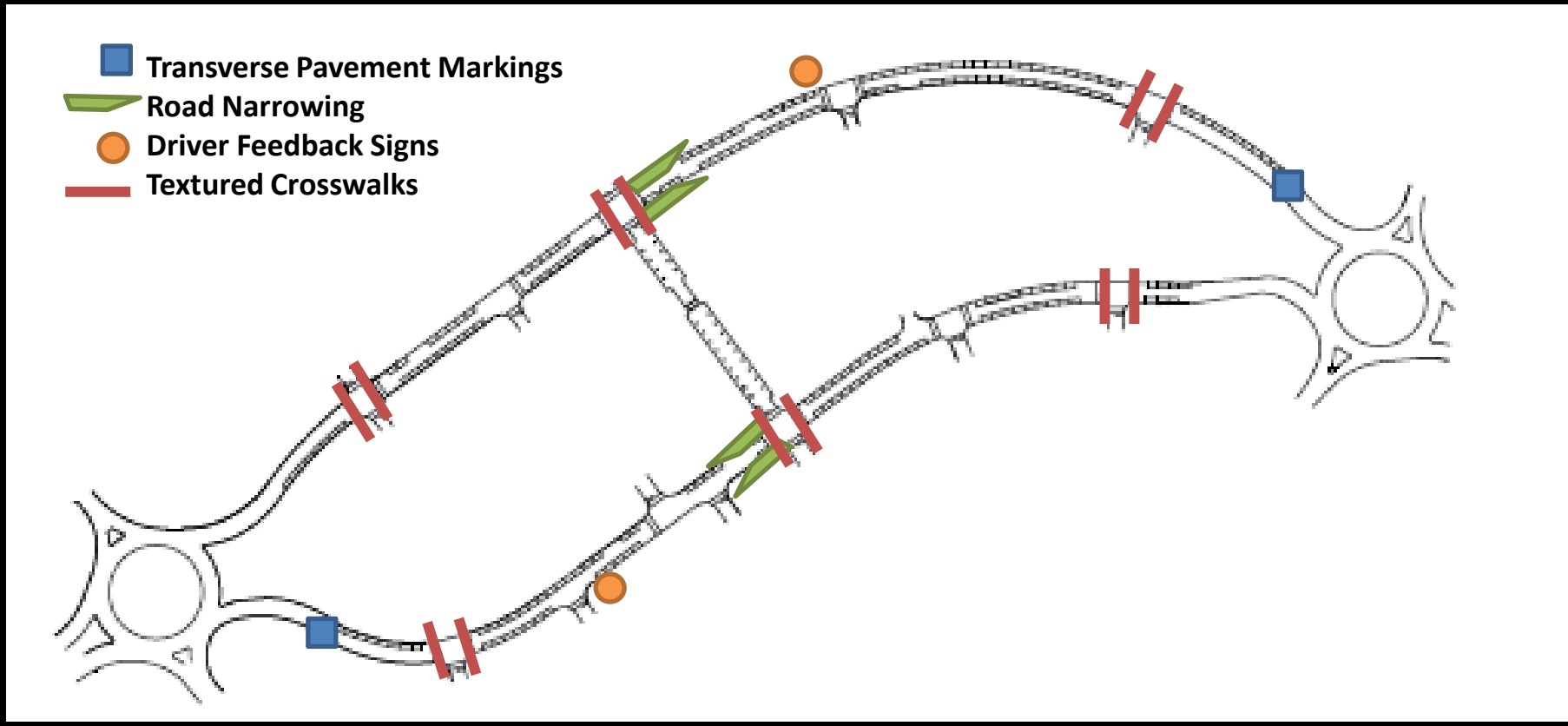
## Road Narrowing





$101,600

# Final Design



# Conclusion

- TWGS Engineering's final design for the Daybreak Parkway couplet successfully accomplishes the project's goal of
  - Reducing speed
  - Increasing safety
  - Increasing commercial access

If implemented in its entirety the final design will decrease speeds sufficiently to reduce the speed limit to 25 mph.