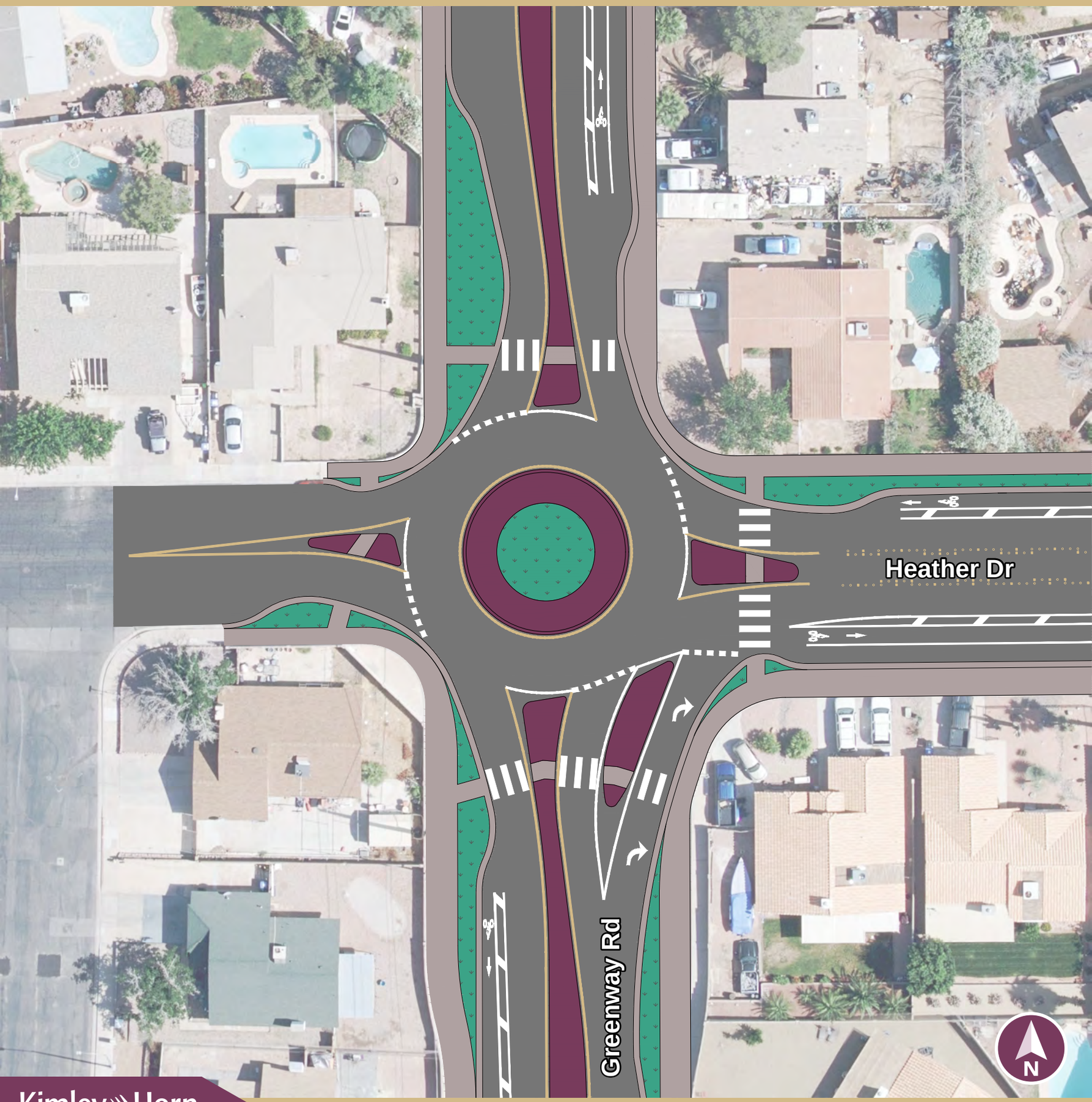
Recommended Intersection Concept: Roundabout

Greenway Rd and Heather Dr



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Recommended Intersection Concept: Roundabout

Greenway Rd and Mission Dr

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Recommended Intersection Concept: Roundabout

Greenway Rd and Paradise Hills Dr

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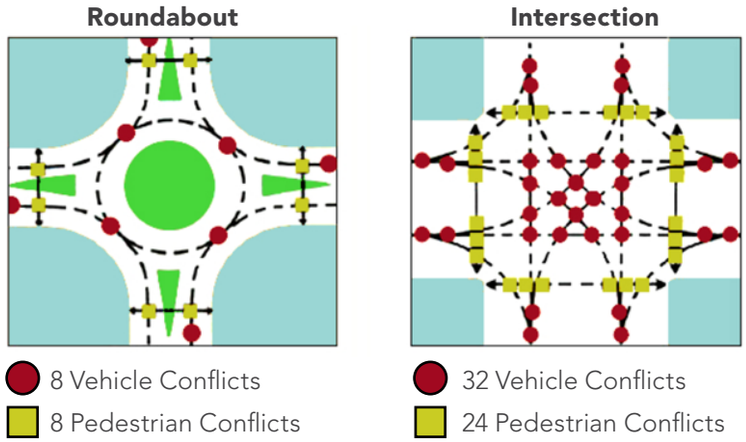
Proven Roundabout Benefits

Improves Safety

Reduces crashes by 30%

- Reduces number of conflict points from a typical intersection
- Reduces crash severity by greatly reducing head-on and T-bone collisions
- Reduces vehicle speed as vehicles approach the intersection



Reduces Delay

- Improves traffic flow and decreases time spent at the intersection
- Reduces number of vehicles queueing at the intersection

Reduces Green House Gas Emissions

- Reduces time spent idling at the intersection versus traditional intersection controls

Reduces Operations and Maintenance Costs

- Eliminates costs associated with traffic signals:
  - Power Costs
  - Re-Timing and Operation Costs
  - Equipment Replacement Costs

Increases Pedestrian Safety

- Reduces time-at-risk for pedestrians by having two-staged crosswalks on each leg by using pedestrian refuge islands
- Pedestrians only have to look at one direction for each crossing
- Reduces vehicle travel speeds at crosswalks

Enhances Aesthetics

- Provides opportunities for community and corridor placemaking, softening of edges, and visual appeal by using the central islands for landscape features and decreasing the amount of pavement

Helpful Roundabout Resources:

10 Roundabout Myths - https://www.youtube.com/watch?v=4qvomI8LMb8

FHWA- Modern Roundabouts: A Safer Choice - https://youtu.be/uhHzly_6lWM

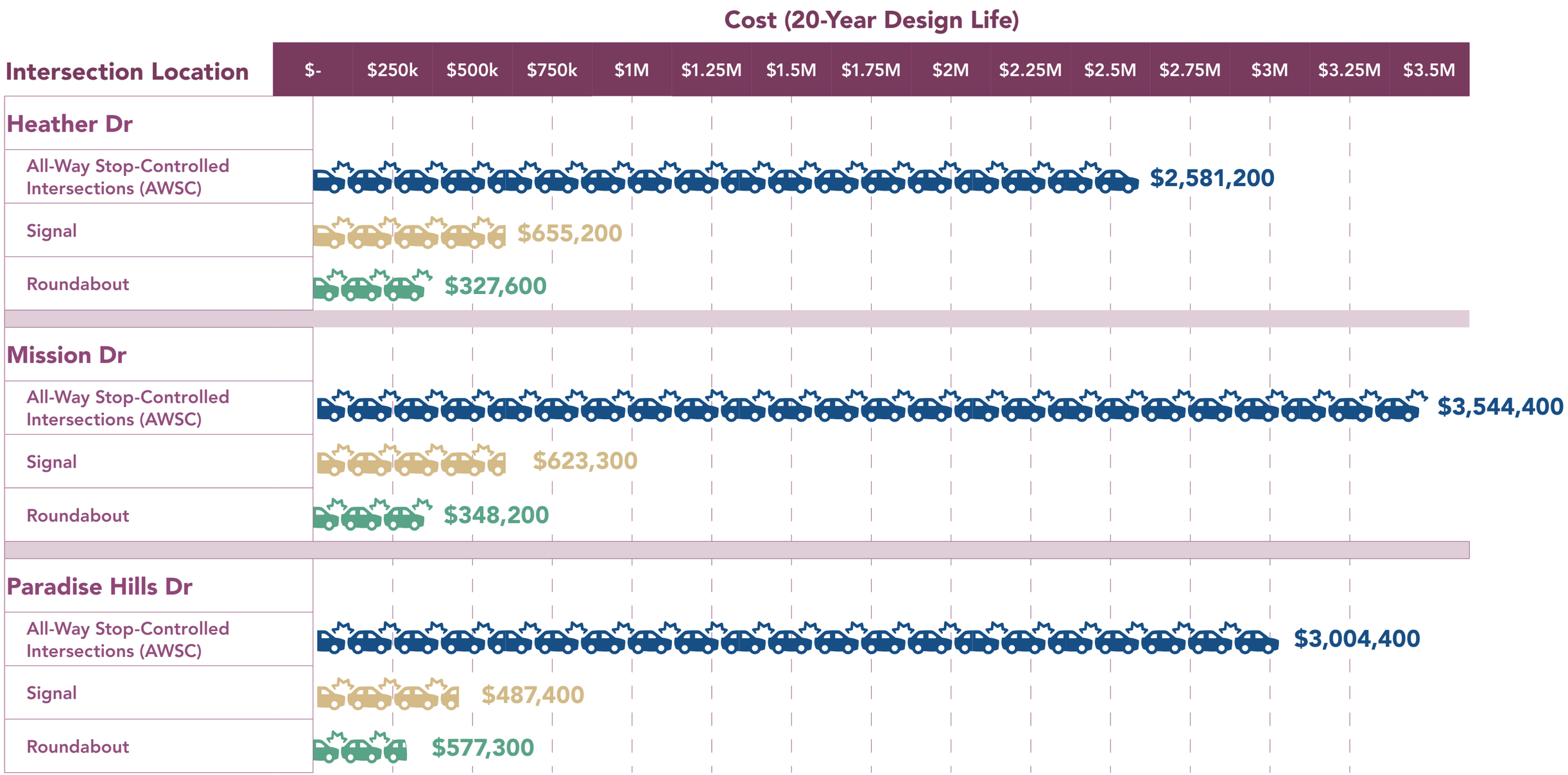
FHWA - https://safety.fhwa.dot.gov/intersection/innovative/roundabouts/

AAA Research Fact Sheet- https://aaafoundation.org/wp-content/uploads/2017/05/SafetyBenefitsofHighwayFact.pdf

AAA Research Full Report - https://aaafoundation.org/safety-benefits-of-highway-infrastructure-investments/

Intersection Safety Cost

Greenway Rd



Intersection Delay

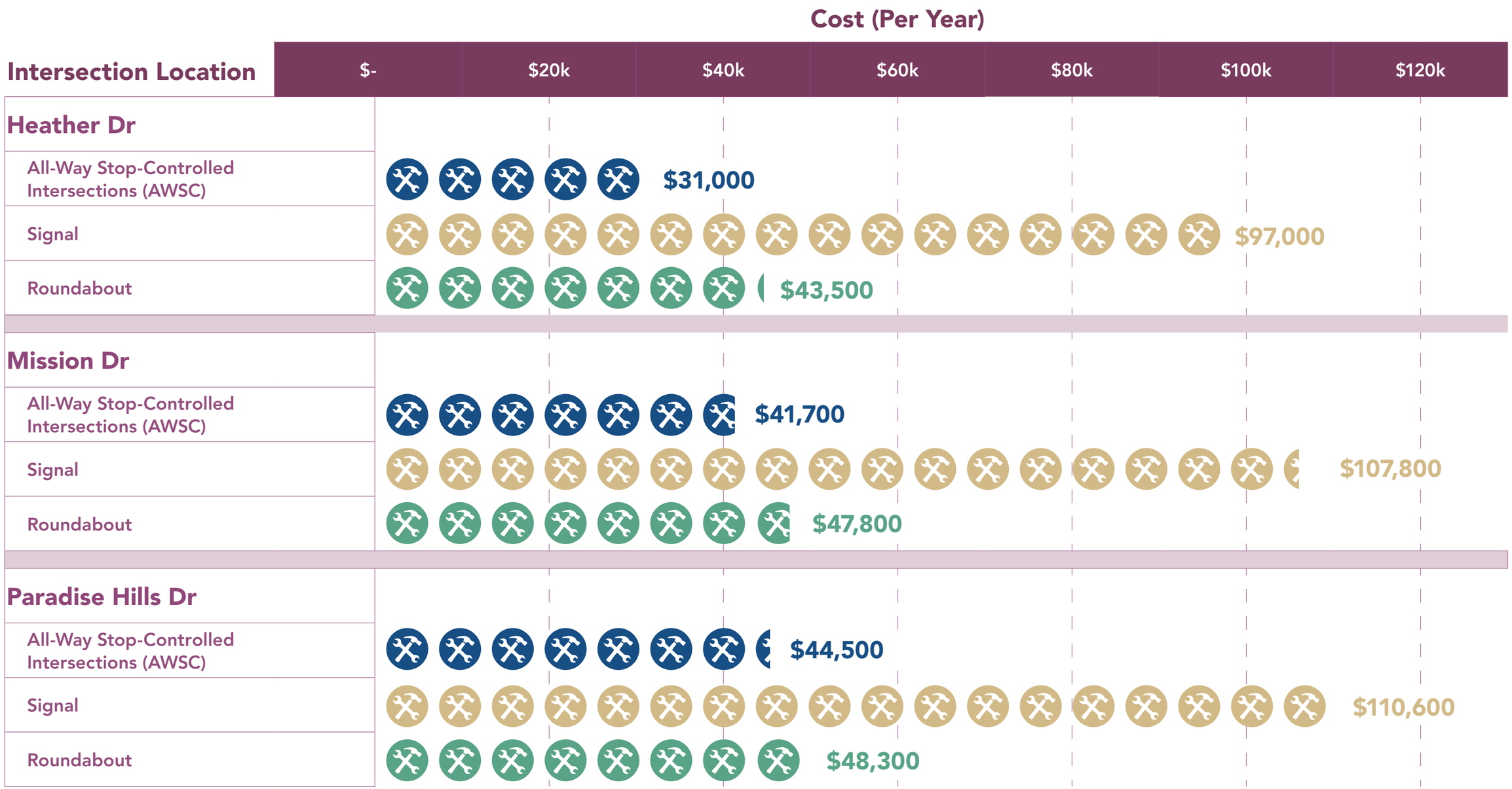
Greenway Rd

Cost (20-Year Design Life)

Intersection Location	$-	$250k	$500k	$750k	$1M	$1.25M	$1.5M	$1.75M	$2M	$2.25M	$2.5M	$2.75M
Heather Dr												
All-Way Stop-Controlled Intersections (AWSC)												$2,622,400
Signal					$877,400							
Roundabout			$398,900									
Mission Dr												
All-Way Stop-Controlled Intersections (AWSC)							$1,206,500					
Signal								$1,289,000				
Roundabout				$739,200								
Paradise Hills Dr												
All-Way Stop-Controlled Intersections (AWSC)									$1,712,000			
Signal					$828,700							
Roundabout			$431,100									

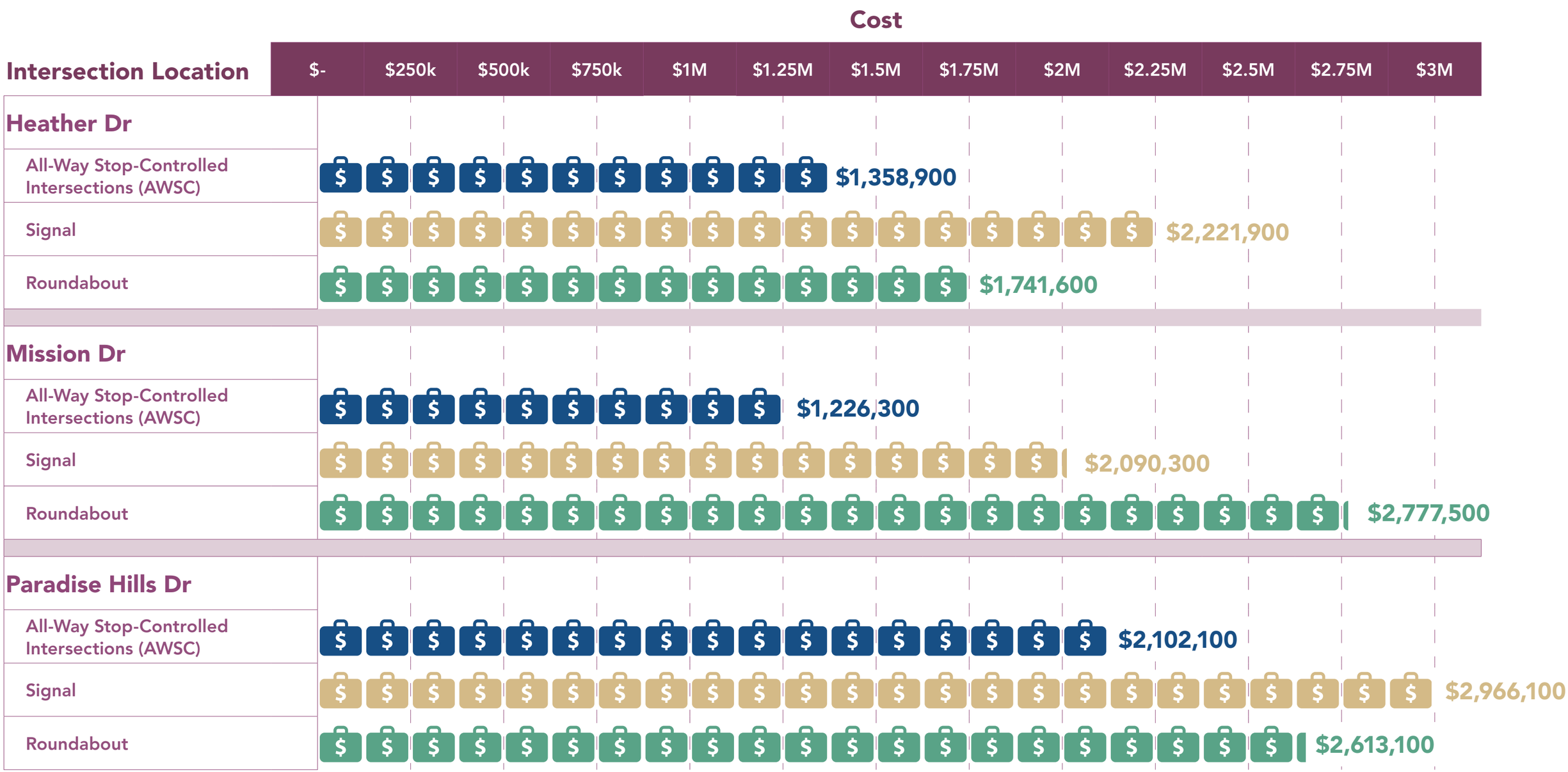
Intersection Operation and Maintenance Cost

Greenway Rd



Intersection Initial Capital Costs

Greenway Rd



Existing Typical Cross Section

Greenway Rd: Heather Dr to Horizon Dr

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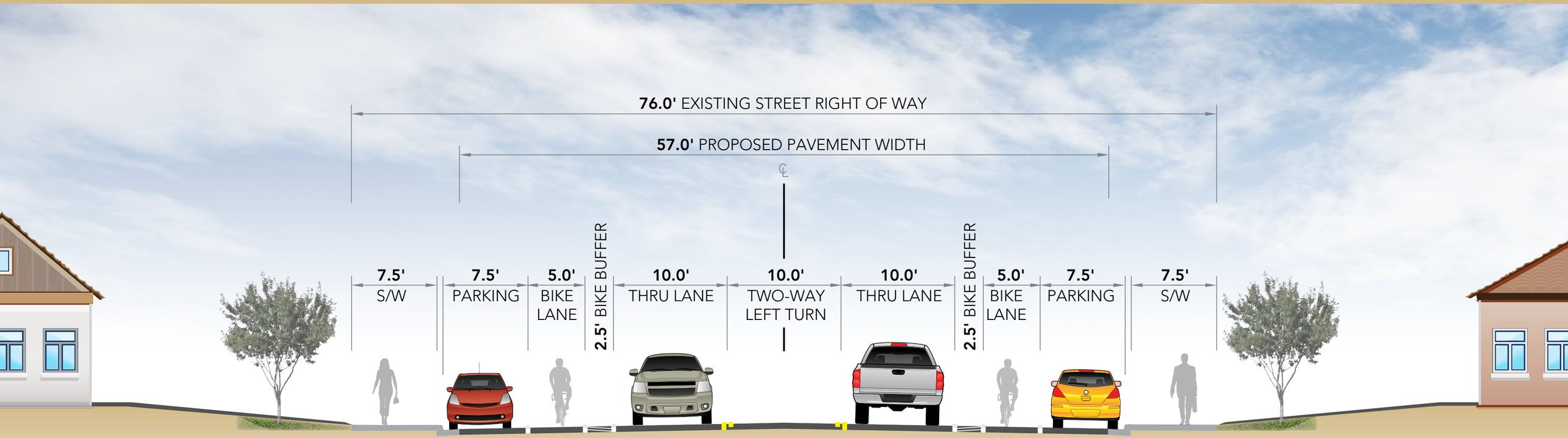
Proposed Typical Cross Section

Greenway Rd: Heather Dr to Horizon Dr



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