Rittenhouse Road

NORTHBOUND RIGHT TURN EVALUATION AT OCOTILLO ROAD

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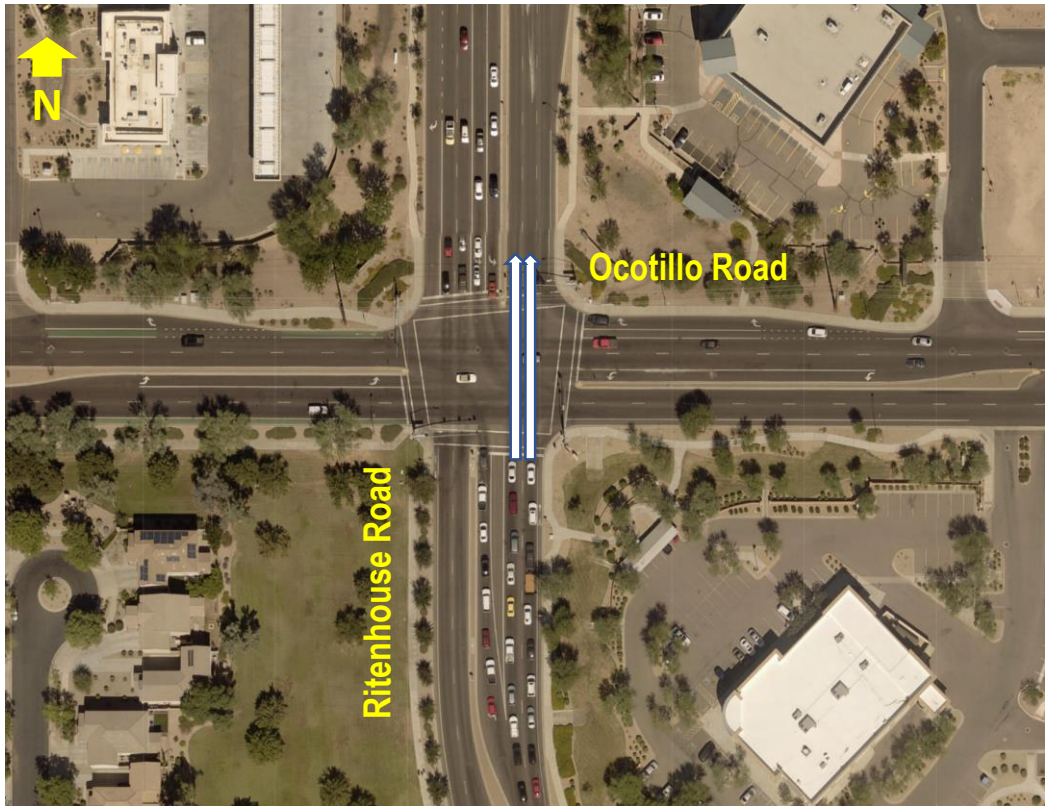
Purpose

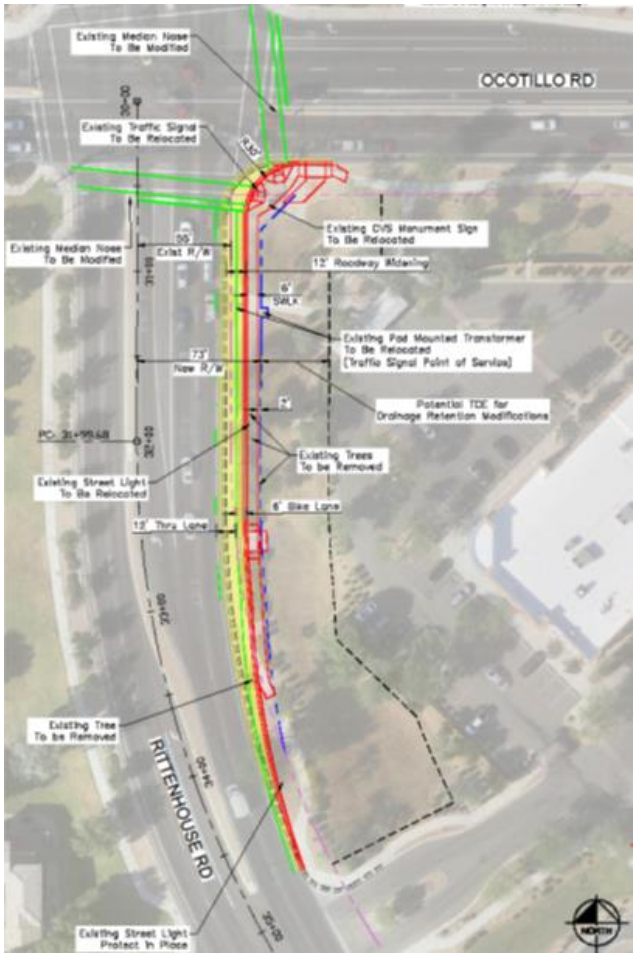
Evaluate the feasibility of constructing a northbound (NB) right turn lane at Rittenhouse Road and Ocotillo Road.

Evaluation Included

- Widening Improvements and Impacts
- Estimate of Probable Cost
- Benefit to Cost analysis



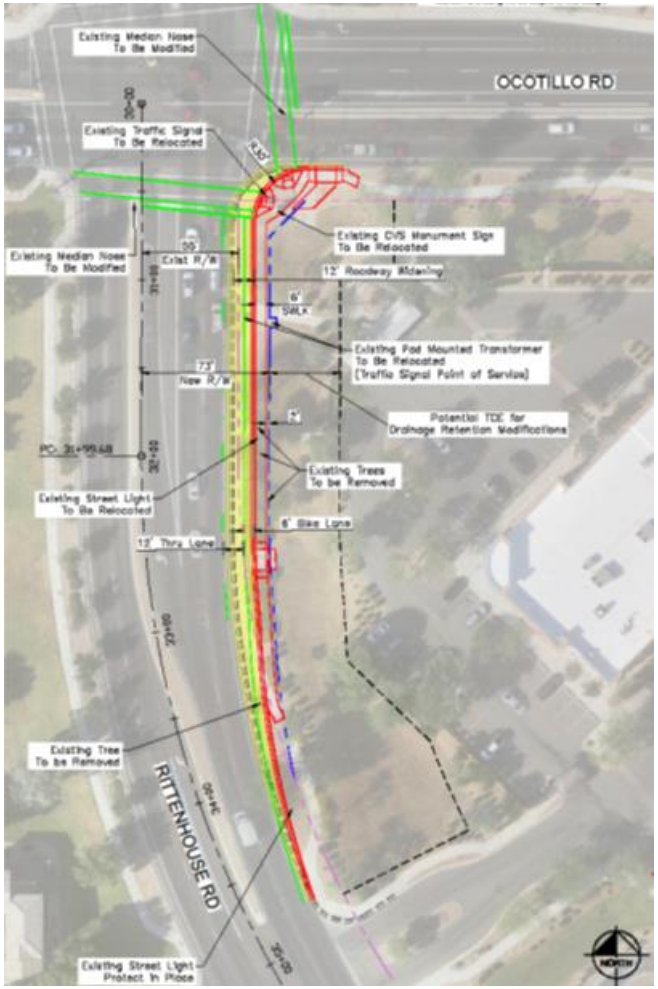
Widening Improvements



- 12-ft lane widening
- 6-ft sidewalk
- Dual ADA sidewalk ramps
- Median nose improvements
- Traffic signal improvements
- Drainage improvements
- Pavement marking & signing
- Total length = 393-ft

Widening Impacts

- Right-of-Way need = 4,830 SF
- SRP Relocations
  - Lighting relocations
  - Transformer
- CVS Monument Sign
- Landscape / Tree removal



Estimate of Probable Cost

ITEM DESCRIPTION	COST ESTIMATE
Construction	$314,000.00
Right-of-Way	$136,000.00
Design	$50,000.00
Total Project Cost	**$500,000.00**

Benefit Cost Analysis (BCA)

- BCA ratio is used to determine the best alternative to achieve benefits in relationship to the cost
  - BCA = 1.0 break even no change in value
  - BCA < 1.0 benefit is less than cost
  - BCA >1.0 benefit is greater than cost

Benefit to Cost Analysis

- Traffic Analysis
  - Evaluated traffic operations for two alternatives
    - Alternative 1 = Existing plus exclusive NB right turn lane
    - Alternative 2 = Existing plus NB shared through/right lane
  - Years 2018, 2025, and 2035 evaluated
  - Calculated the annual savings in vehicle hours traveled (VHT) for each alternative
- BCA = Annual VHT / Annual Cost

BCA Results

Alternative	Benefit Cost Analysis (BCA)		
	2018	2025	2035
Alternative 1 – NB Exclusive Right Turn Lane	1.743	1.992	2.490
Alternative 2 – NB Shared Through / Right Lane	2.241	2.241	2.988

BCA is based on a 20 year capital recover factor

Conclusions

- Both alternatives improve overall intersection operations
- Both alternatives yield a BCA ratio > 1.0 indicating the benefits outweigh the cost to improve the intersection
- Alternative 2 (NB shared through/right lane) yields the highest BCA ratio and benefit to the intersection