

ONE UNIVERSITY

Community Transportation Meeting
January 31, 2019

Updated Draft Site Plan



Transportation Meeting Outline

1. Existing Conditions
2. Multimodal Facilities
3. Proposed Development
4. Multimodal Traffic Impact Analysis
5. Proposed Improvements
6. University Drive/Ox Road Simulations
7. Community Questions

Site Location



Existing Conditions



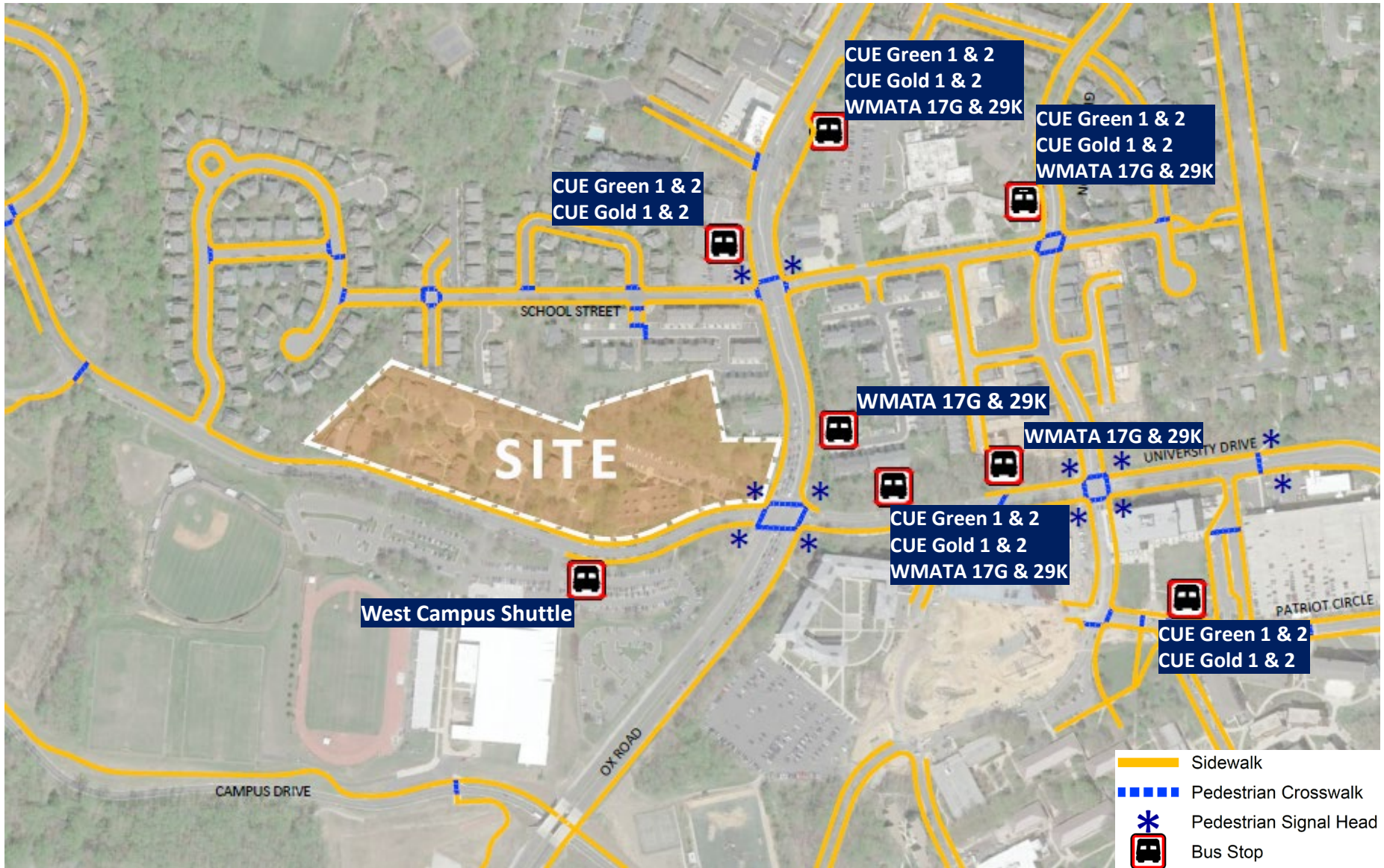
Existing Uses
46 Affordable DU
16,689 SF Office

170' Through-Right Lane

Qx Road

Existing Site Access

Multimodal Facilities

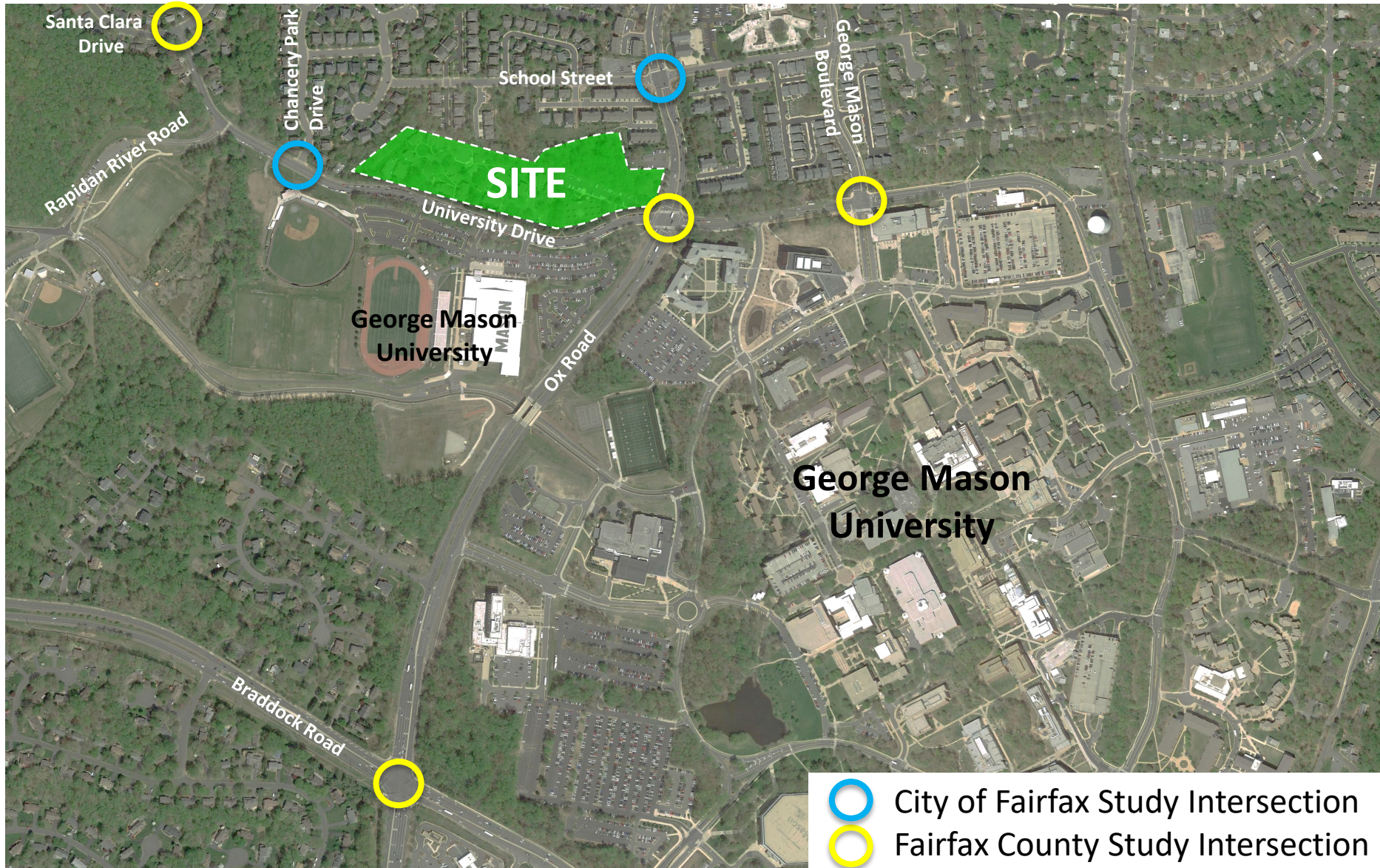


Multimodal Traffic Study Parameters

Traffic study was scoped with Fairfax County Department of Transportation (FCDOT) and the Virginia Department of Transportation (VDOT).

- Study includes 11 intersections (2 city & 9 county)
- Evaluates the multimodal facilities serving the site.
- Analysis years:
 - Existing (2018)
 - Future (2022) without & with development
 - Future (2040) with development.
- A one (1) percent growth rate was used for forecasting future background traffic at the study intersections.
- Utilizes market rate multifamily ITE trip generation rates for the proposed uses.
- Forecasts additional pedestrian activity at the University Drive/Ox Road intersection.
- Recommends improvements to offset proposal's impacts and addresses existing operational issues at the University Drive/Ox Road intersection.
- Establishes a set of Transportation Demand Management (TDM) strategies to reduce vehicular traffic to/from the site.

Off-Site Study Intersections



Site Trip Generation

Standard Multifamily – Used in Traffic Impact Analysis

Use	AM Peak Hour Trips	PM Peak Hour Trips
Student Housing ¹	154	184
Senior Affordable ¹	45	62
Affordable ¹	61	81
TOTAL	260	327

Use Specific Trip Generation

Use	AM Peak Hour Trips	PM Peak Hour Trips
Student Housing ²	87	198
Senior Affordable ³	20	26
Affordable ¹	61	81
TOTAL	168	305
<i>Difference</i>	<i>-92 (35%)</i>	<i>-22 (7%)</i>

1. Trips generated using Land Use Code 220; ITE *Trip Generation Manual*, 9th Edition and a 15% non-auto reduction.
2. Trips generated using Land Use Code 225; ITE *Trip Generation Manual*, 10th Edition and no non-auto reduction.
3. Trips generated using Land Use Code 252; ITE *Trip Generation Manual*, 10th Edition and no non-auto reduction.

Multimodal Traffic Study Results

Existing Conditions (2018)

- All signalized study intersections operate at overall acceptable levels of service (LOS “D” or better) during the AM and PM peak hours with the exception of:
 - University Drive/Ox Road (PM peak hour)
 - Braddock Road/Ox Road (AM and PM peak hours)
- All unsignalized study intersections and site driveways operate at acceptable LOS during the AM and PM peak hours.
- Queueing along Ox Road is heaviest in the northbound direction during the AM peak hour and southbound during the PM peak hour. Eastbound University Drive queues exist during both the AM and PM peak hours.

Future Conditions without Redevelopment (2022)

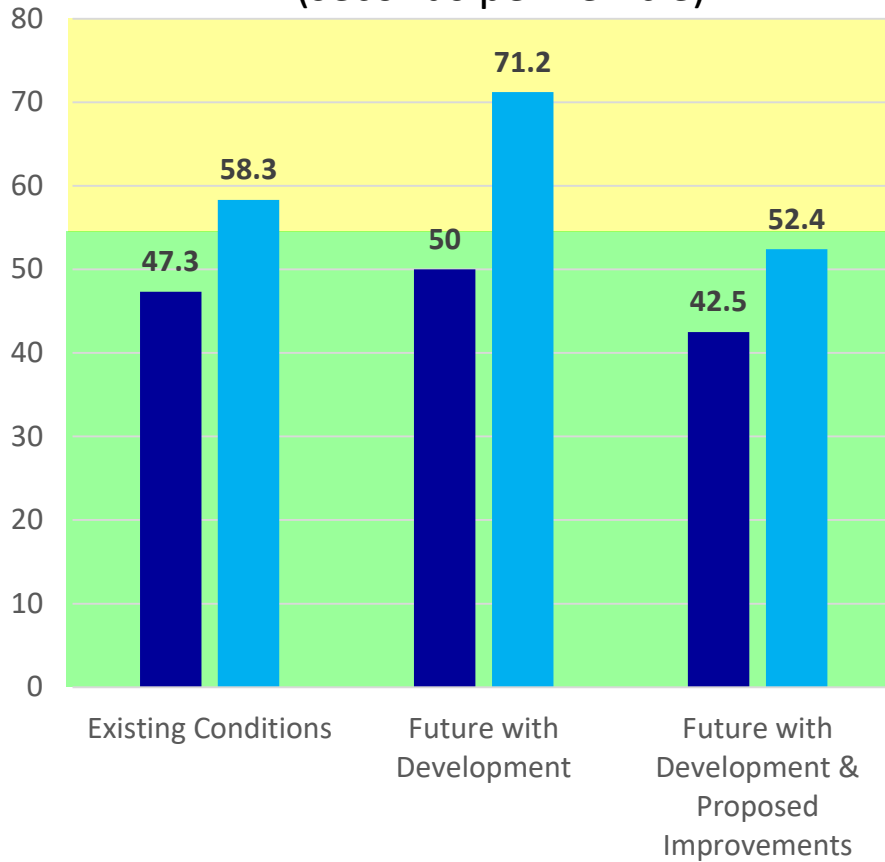
- All study intersections would continue to operate at similar levels of service compared to existing conditions with the addition of regional growth.

Future Conditions with Redevelopment (2022)

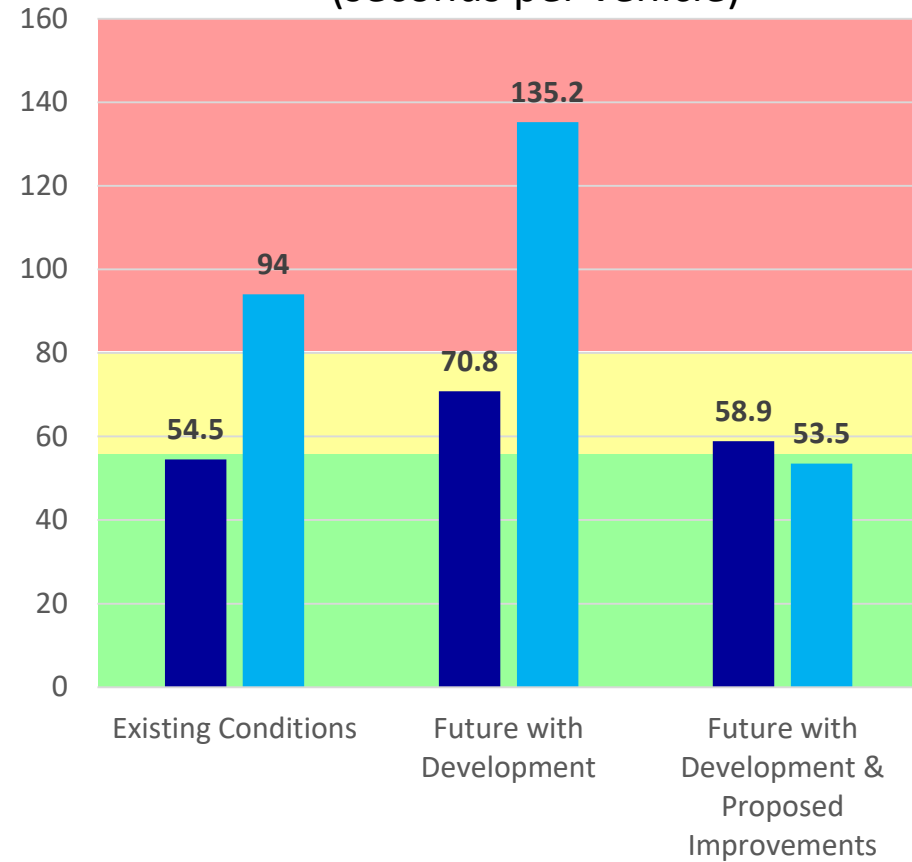
- The University Drive/Ox Road intersection would experience the greatest increase in delay due to the site’s proximity to this location.
 - Specifically, the northbound left-turn (from Ox Road) and eastbound approach of University Drive.
 - Other signalized study intersections would experience an overall average delay increase of three (3) seconds or less.
- The two (2) proposed site driveways would operate at acceptable LOS.

University Drive/Ox Road Level of Service Comparison

Overall Intersection LOS & Delay
(seconds per vehicle)



Eastbound Approach LOS & Delay
(seconds per vehicle)



■ AM Peak Hour

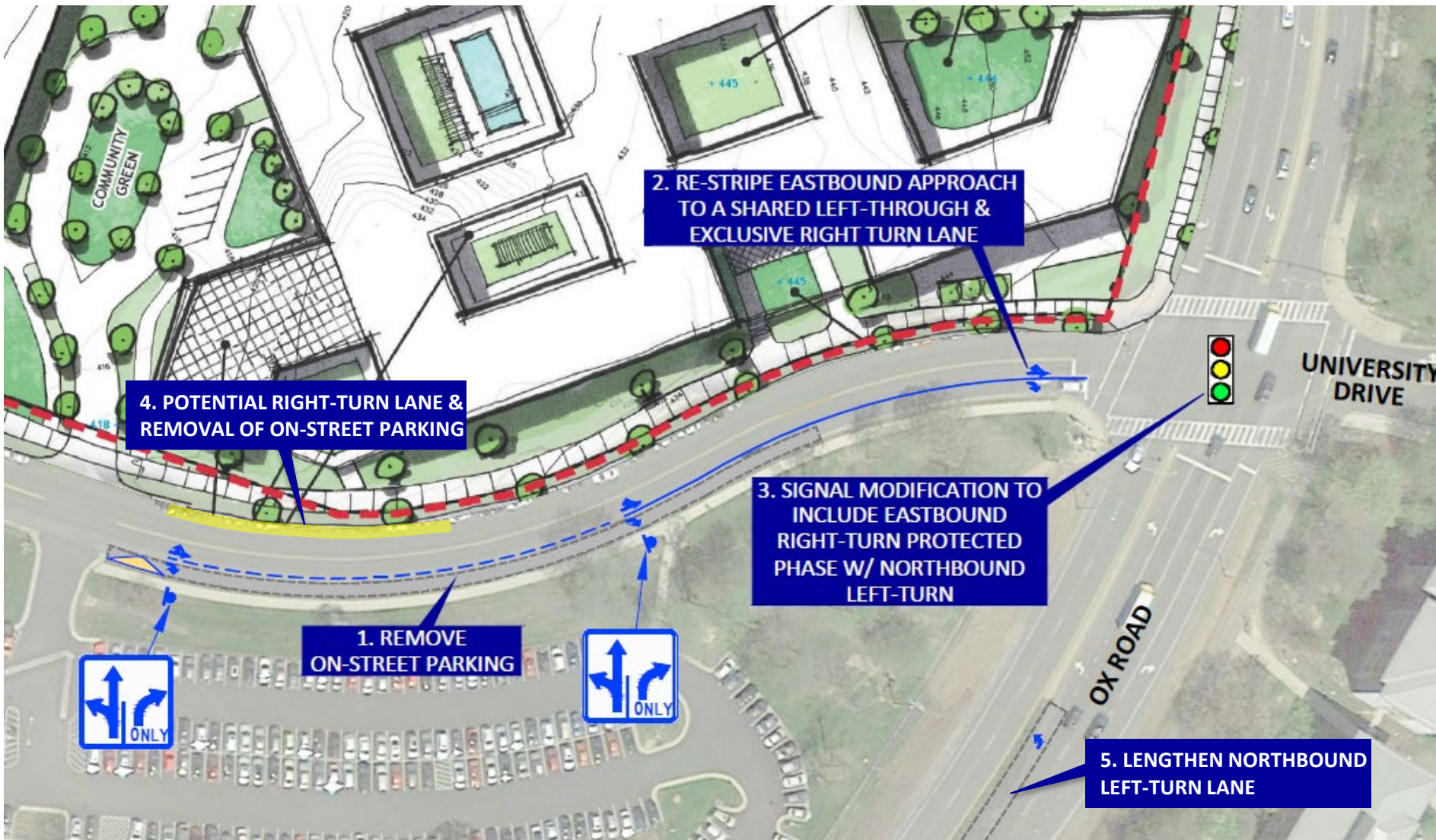
■ PM Peak Hour

■ LOS "A" – "D"

■ LOS "E"

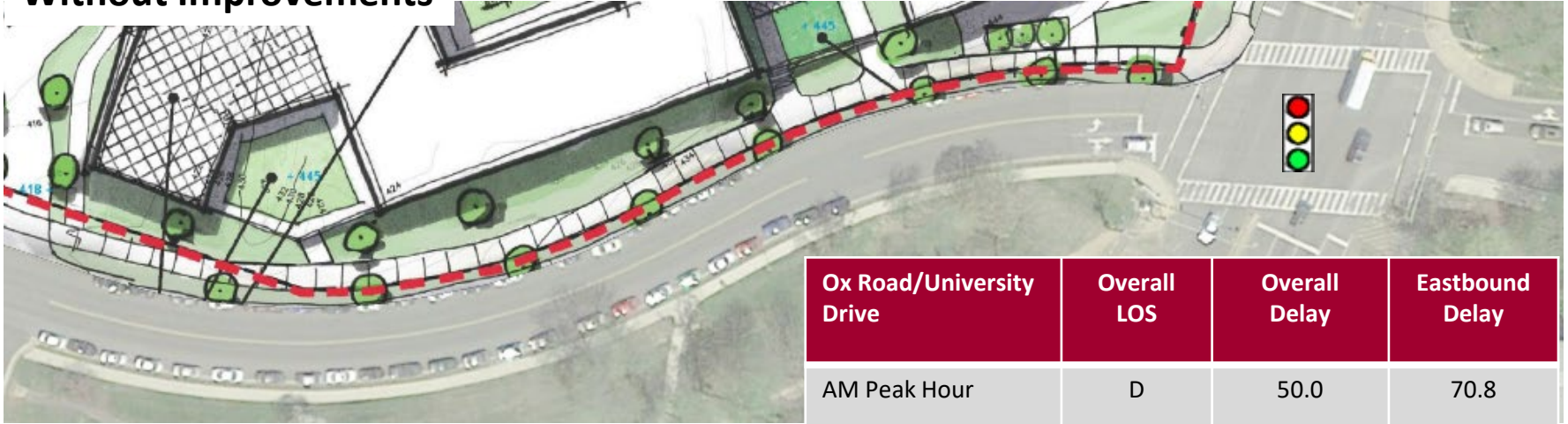
■ LOS "F"

Proposed Improvements



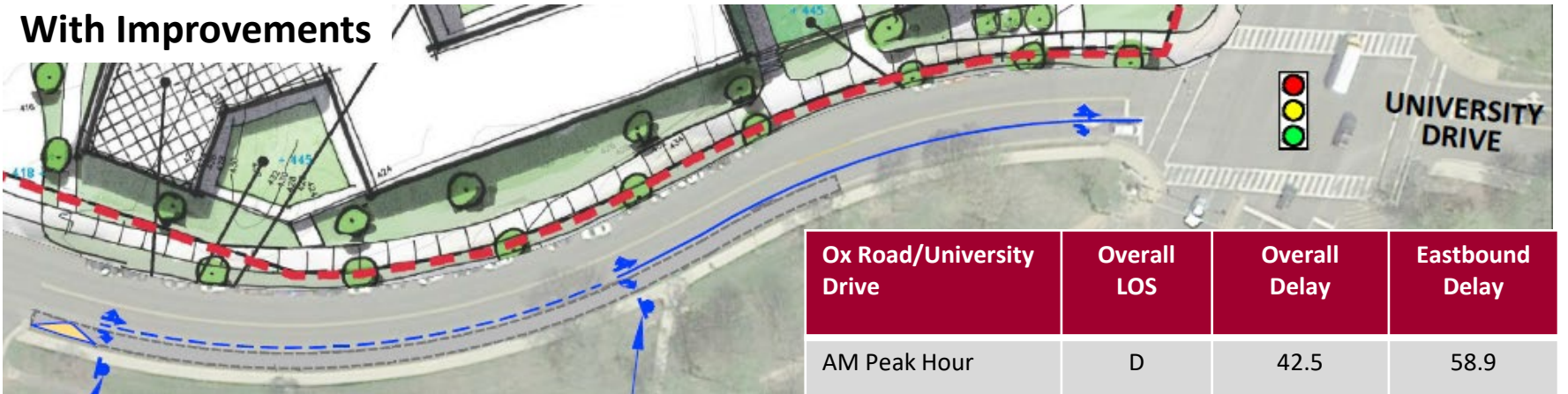
Future Conditions Results

Without Improvements



Ox Road/University Drive	Overall LOS	Overall Delay	Eastbound Delay
AM Peak Hour	D	50.0	70.8
PM Peak Hour	E	71.2	135.2

With Improvements



Ox Road/University Drive	Overall LOS	Overall Delay	Eastbound Delay
AM Peak Hour	D	42.5	58.9
PM Peak Hour	D	52.4	53.5