



Route N Study

Technical Advisory Group (TAG)

Meeting #2

February 7, 2019





Agenda

- Introductions
- Review of the Conceptual Alternatives
- Purpose & Need Review
- Purpose and Need Screening of the Conceptual Alternatives
- Traffic Model Updates
- Next Steps
- Questions & Discussion
- Adjourn



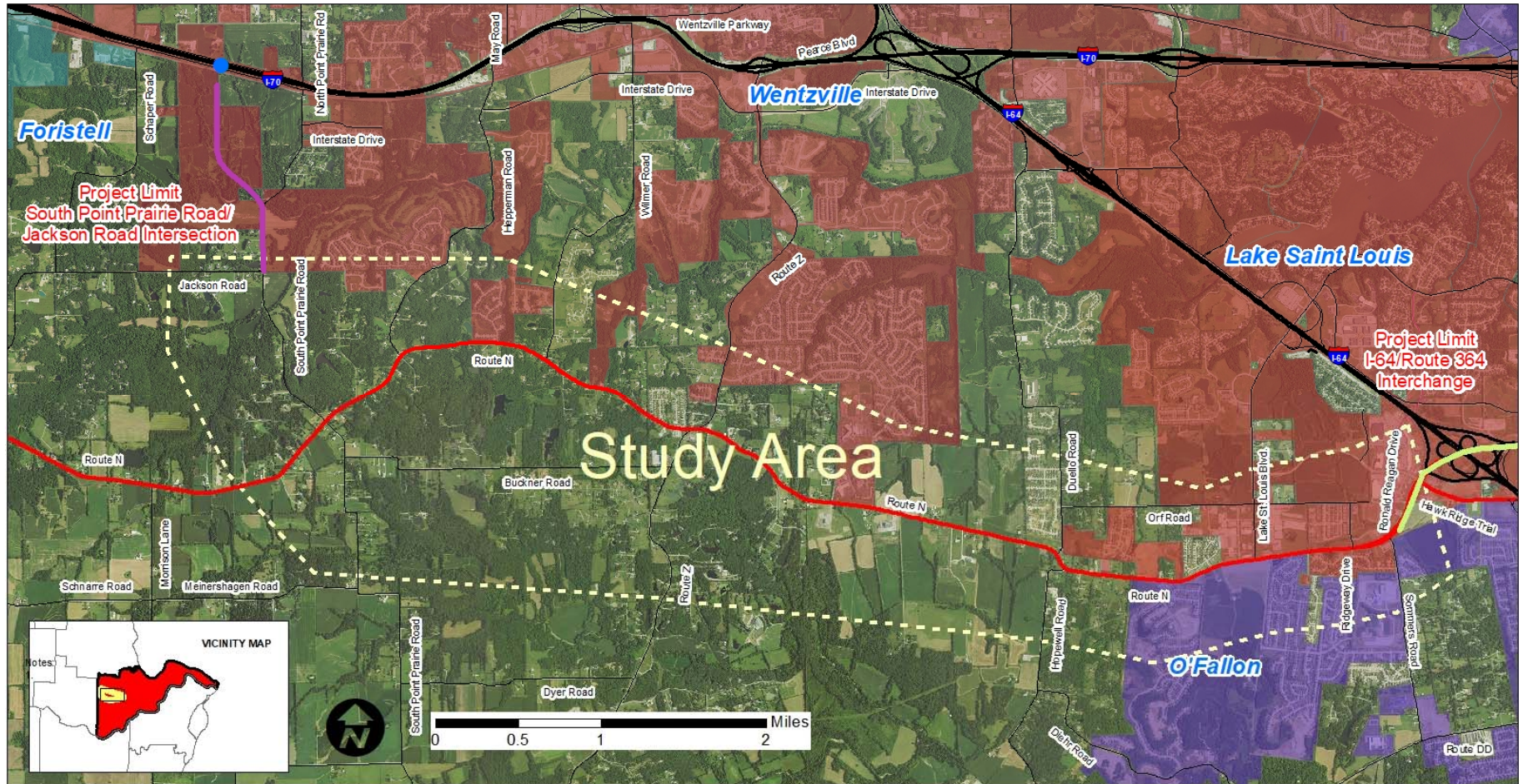


Route N NEPA Study

- Limits
 - From the South Point Prairie Road/Jackson Road intersection east to the I-64/Route 364 interchange
- Co-Lead Agencies – MoDOT and FHWA
- Transportation Corridor Improvement Group
 - MoDOT
 - St. Charles County
 - Partnering with MoDOT
 - Elevated Route N to a regional long-range plan priority
 - East-West Gateway Council of Governments (MPO)
 - Partnering with MoDOT
 - Ensuring the study supports the regional vision



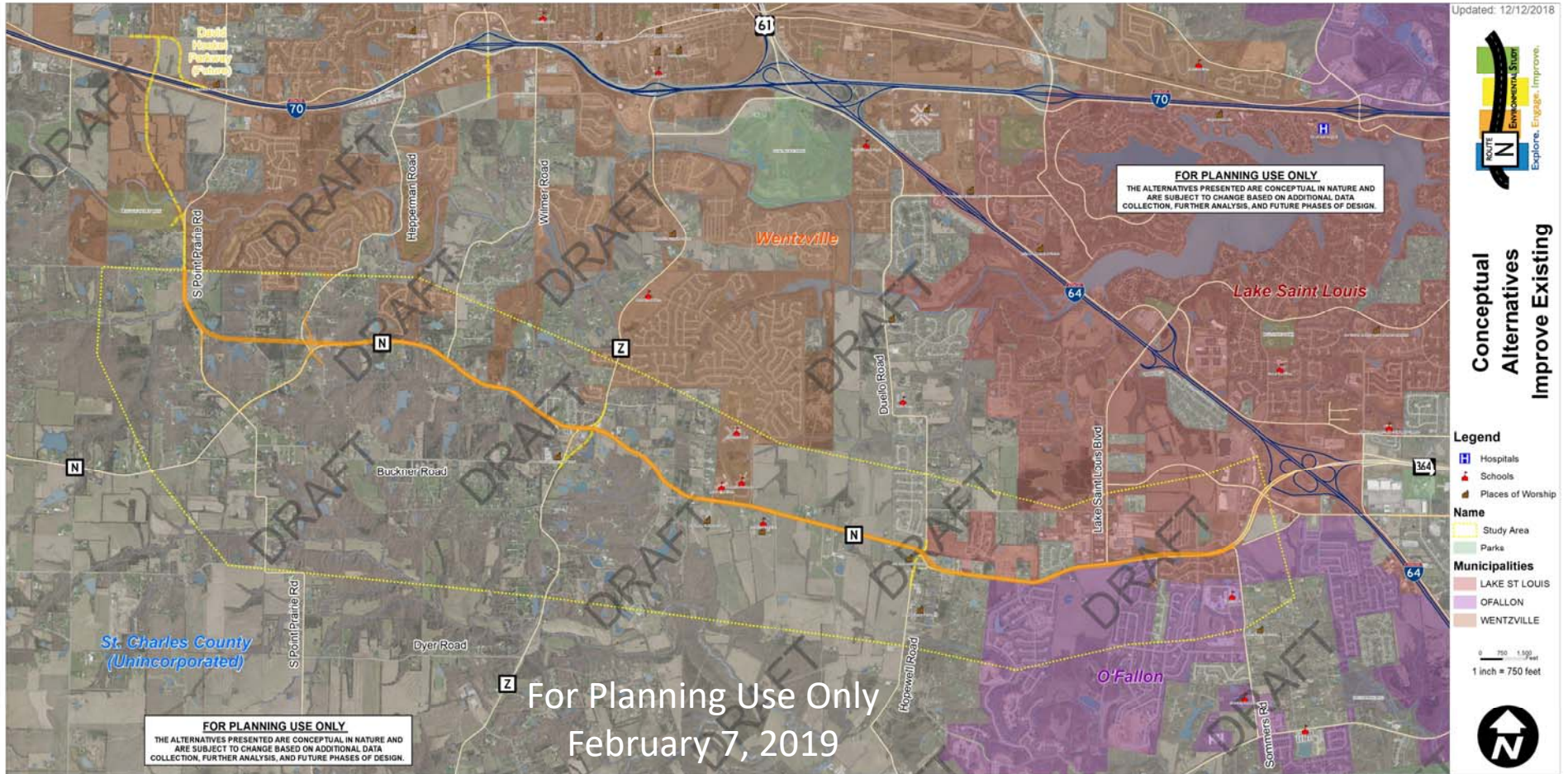
Study Area



Review of the Conceptual Alternatives

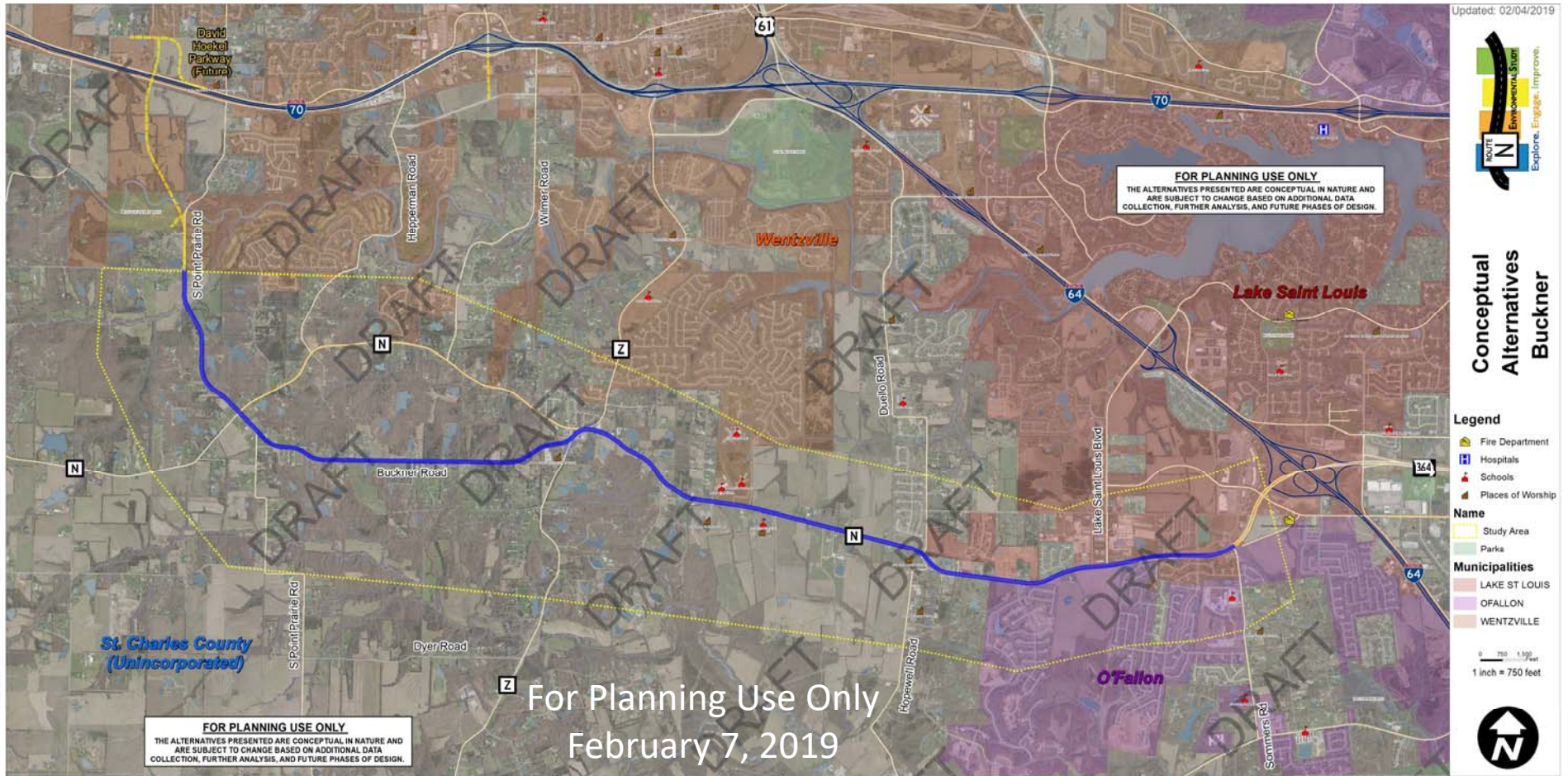


Improve Existing Route N Conceptual Alternative



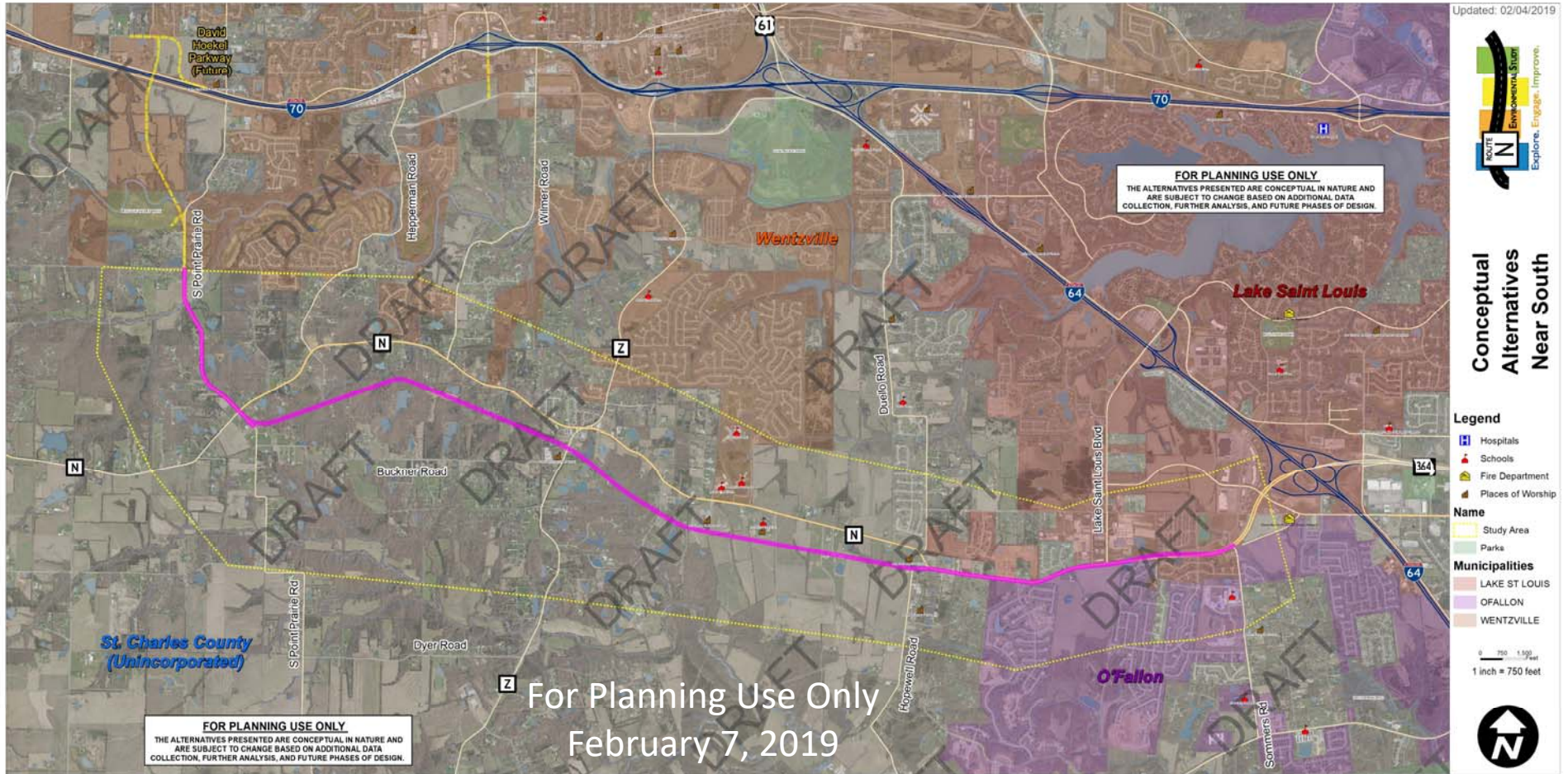


Buckner Road Conceptual Alternative



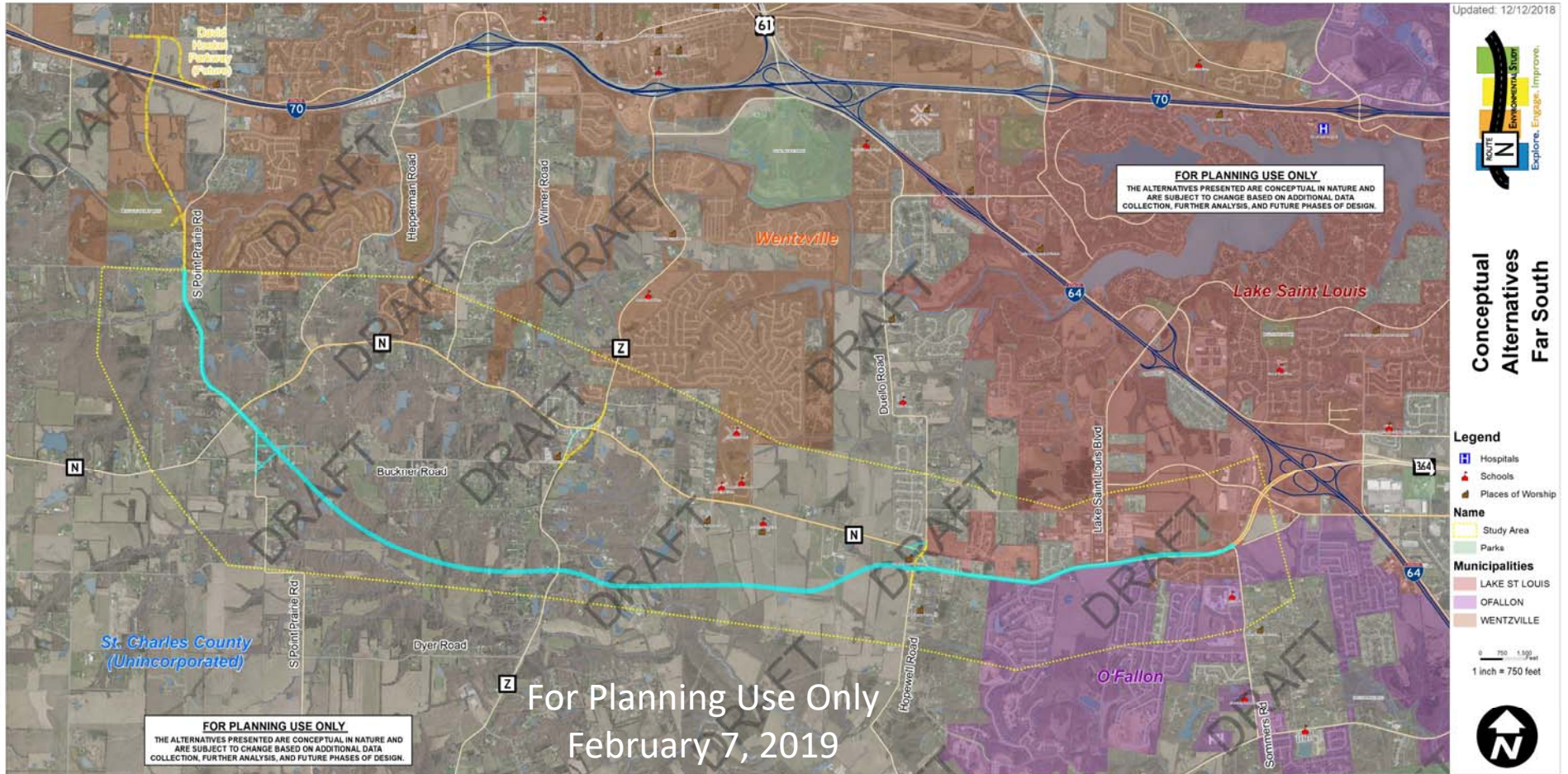


Near South Conceptual Alternative



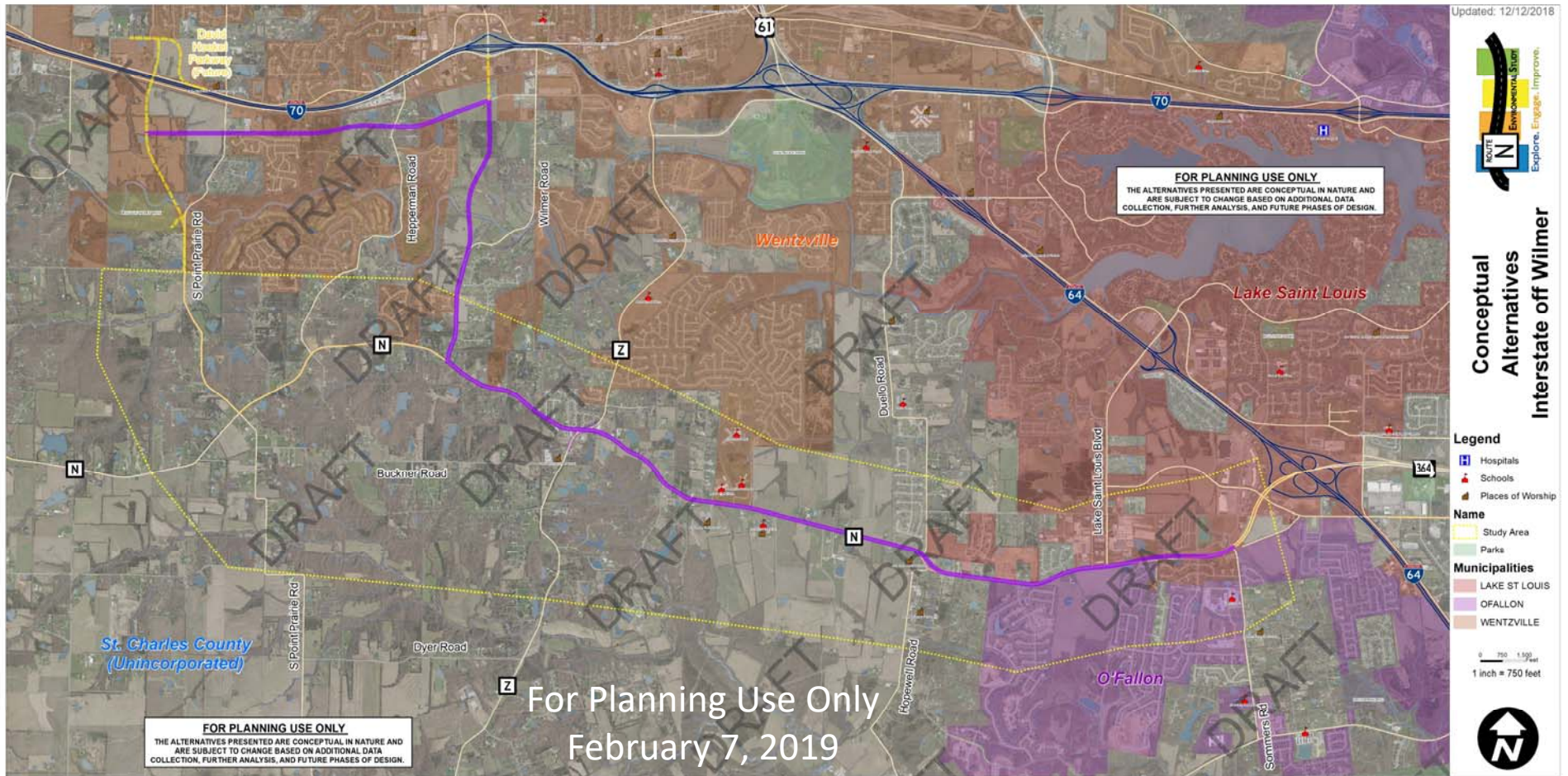


Far South Conceptual Alternative



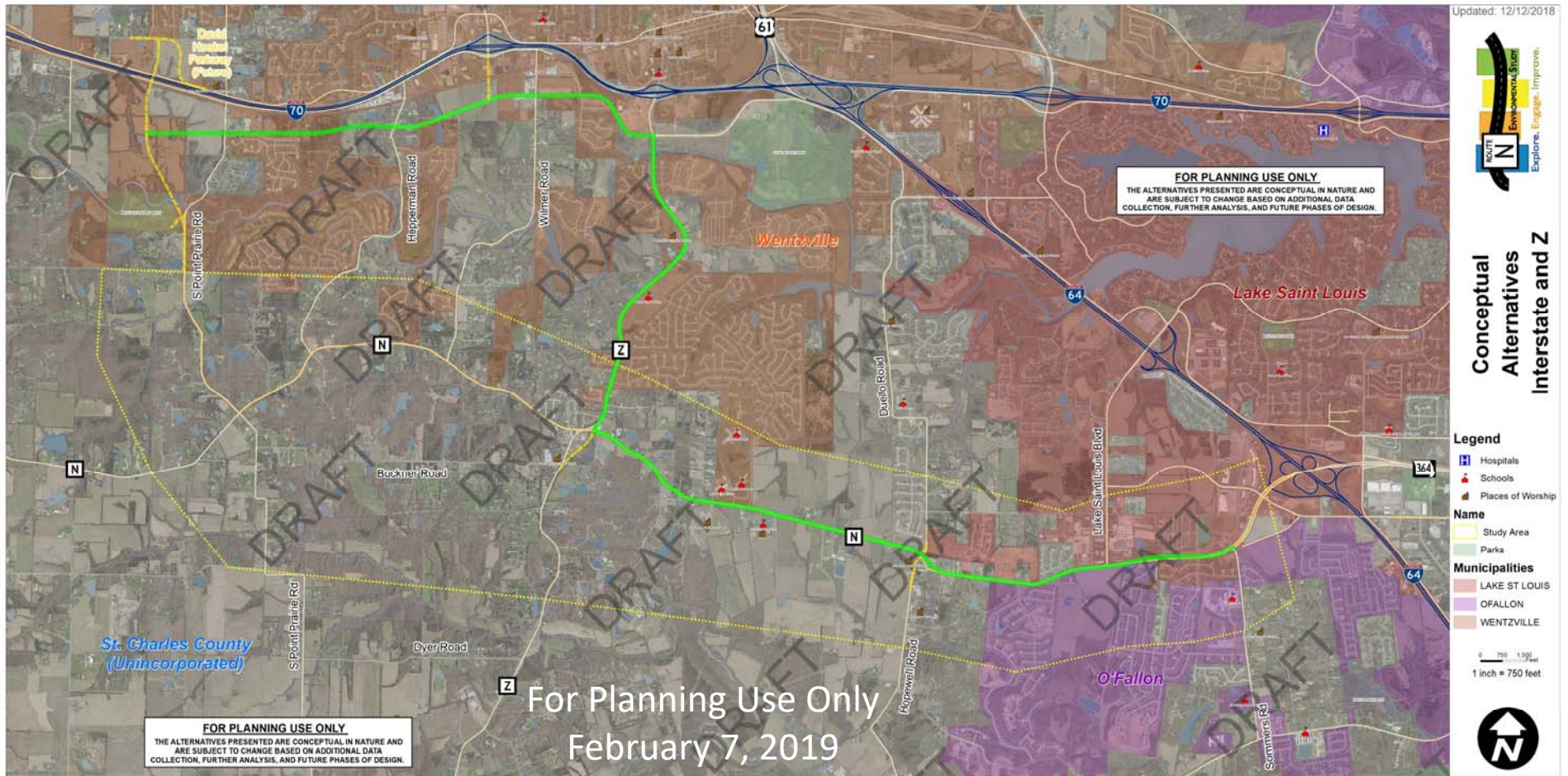


Interstate Drive/Wilmer Conceptual Alternative

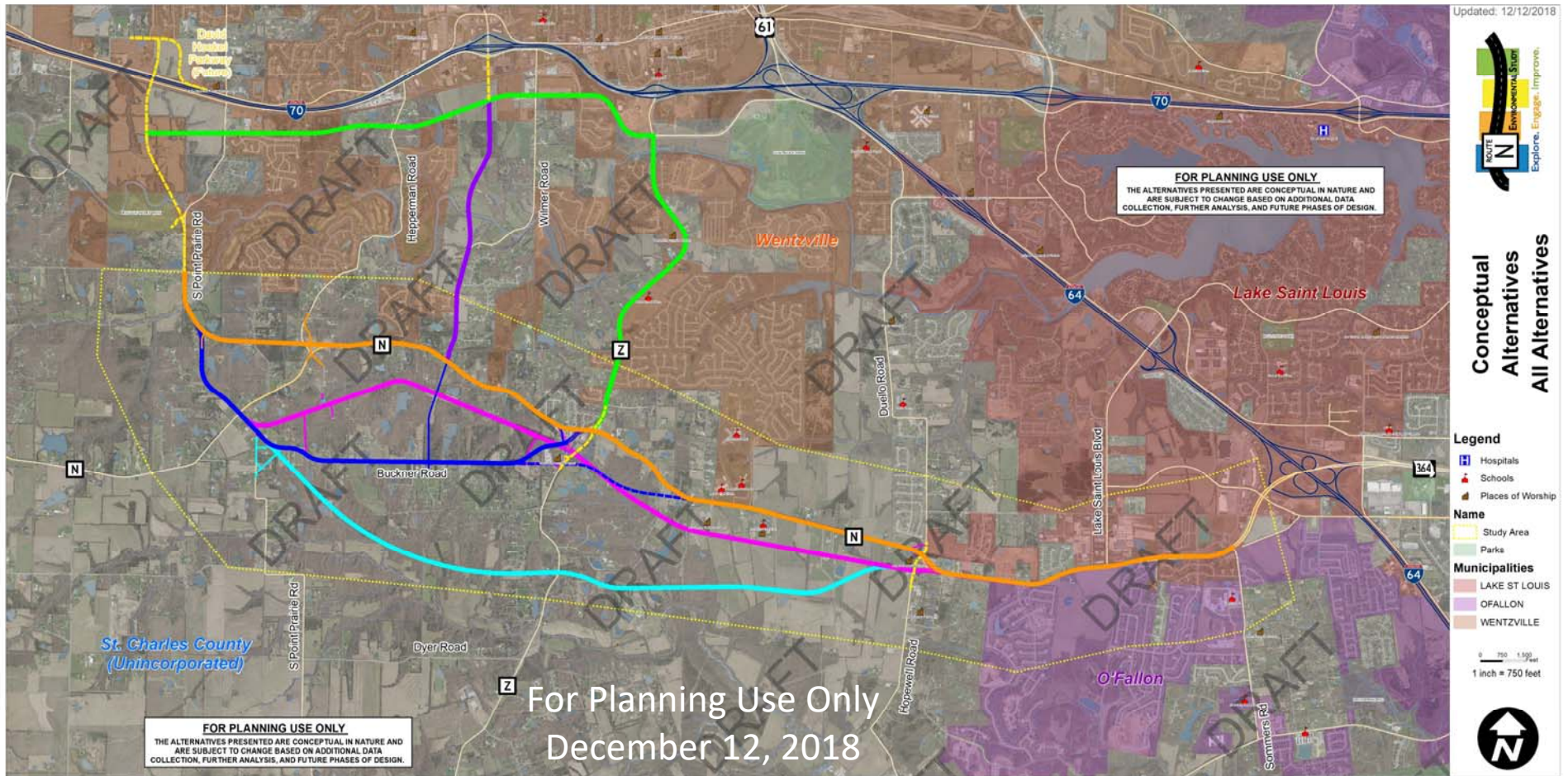




Interstate Drive/Route Z Conceptual Alternative



All Conceptual Alternatives



Purpose and Need Review



Study Purpose

The Purpose (Goal) of the Route N NEPA study is to investigate and identify improvements intended to develop a safe and efficient network between the South Point Prairie Road/Jackson Road intersection and the I-64/Route 364 interchange





Study Need

Overall, the need elements of the Route N NEPA Study are to:

- Improve access and connectivity
 - Need to provide access to important study area resources
 - Need to address deficiencies within the existing roadways
 - Need to improve connectivity through the study area

- Reduce congestion and delay
 - Need to address inadequate capacity
 - Need to address under-performing intersections and driveways
 - Need to provide appropriate access management opportunities

These needs will serve as the primary evaluation factors to determine the Reasonable Alternatives





Improve Access and Connectivity

- Two-lane roadway with minimal shoulders
 - Sharp turns and rolling hills
 - Lack of bike/pedestrian accommodations
- Difficulty in making turning movements
- Numerous conflict points





Reduce Congestion and Delays

- Numerous major intersections
 - Lake St. Louis Boulevard
 - Route N/Route Z
 - Hopewell/Duello
 - Perry Cate
- Numerous major driveways with access to Route N
 - Major subdivisions
 - Schools and churches
 - Businesses
- Higher usage than designed for Route N
 - Daily traffic volumes range from 5,500 VPD west of Route Z to 18,000 VPD east of Route Z



Screening of the Conceptual Alternatives



Need to Improve Access and Connectivity

PURPOSE AND NEED ELEMENT	EVALUATION CRITERIA	STANDARDS	DECISION KEY (Yes/No)
<p>Purpose and Need Element #1 - Need to Improve Access and Connectivity</p>	<p>A) Provide safe and efficient access to/from important study area resources</p>	<p>Can the alternative provide improved access to/from key Route N destinations and major traffic generators?</p>	<p>Yes - Alternative provides improved access to key destinations and major Route N traffic generators</p> <p>No - Alternative does not provide improved access to key destinations and/or underserves major Route N traffic generators</p>
	<p>B) Provide roadway design and features that meet appropriate standards</p>	<p>Can the alternative meet design standards for the appropriate roadway classification(s)?</p>	<p>Yes - Alternative can be designed to be consistent with future Route N roadway type and traffic volumes consistent with planned land uses</p> <p>No - Alternative would result in future Route N traffic on incompatible roadways/roadway types and/or through existing or planned land uses that are not intended for future Route N traffic</p>
	<p>C) Improve connectivity in the study area</p>	<p>Can the alternative move traffic more efficiently through the study area?</p>	<p>Yes - Alternative accommodates the efficient movement of traffic between project termini and efficient operation for trips remaining on existing Route N</p> <p>No - Alternative results in inefficient movement of traffic between project termini or inefficient operations for trips remaining on existing Route N</p>





Need to Improve Access and Connectivity

PURPOSE AND NEED ELEMENT	DECISION KEY (Yes/No)	Conceptual Alternative						
		No Build	Improve Existing	Buckner Road	Near South	Far South	Interstate Drive/Wilmer Road	Interstate Drive/Route Z
Purpose and Need Element #1 - Need to Improve Access and Connectivity	Yes - Alternative provides improved access to key destinations and major Route N traffic generators	No						
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	Yes - Alternative can be designed to be consistent with future Route N roadway type and traffic volumes consistent with planned land uses	No						
	No - Alternative would result in future Route N traffic on incompatible roadways/roadway types and/or through existing or planned land uses that are not intended for future Route N traffic							
Yes - Alternative accommodates the efficient movement of traffic between project termini and efficient operation for trips remaining on existing Route N	No							
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Purpose and Need Element #1 - Need to Improve Access and Connectivity	Yes - Alternative provides improved access to key destinations and major Route N traffic generators				No (Does not provide improved access to destinations west of Hopewell/Duello)			
	No - Alternative does not provide improved access to key destinations and/or underserves major Route N traffic generators							
	Yes - Alternative can be designed to be consistent with future Route N roadway type and traffic volumes consistent with planned land uses				Yes			
	No - Alternative would result in future Route N traffic on incompatible roadways/roadway types and/or through existing or planned land uses that are not intended for future Route N traffic							
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	Yes - Alternative accommodates the efficient movement of traffic between project termini and efficient operation for trips remaining on existing Route N No - Alternative results in inefficient movement of traffic between project termini or inefficient operations for trips remaining on existing Route N						No (Distance from existing Route N results in inefficient operations on existing Route N)		





Need to Improve Access and Connectivity

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Purpose and Need Element #1 - Need to Improve Access and Connectivity	Yes - Alternative provides improved access to key destinations and major Route N traffic generators						No (Underserves traffic generators west of Wilmer Road and south of Route N)	
	No - Alternative does not provide improved access to key destinations and/or underserves major Route N traffic generators							
	Yes - Alternative can be designed to be consistent with future Route N roadway type and traffic volumes consistent with planned land uses						No (Interstate Drive and Wilmer Road design, roadway type, and planned landuses are not consistent with carrying Route N traffic)	
	No - Alternative would result in future Route N traffic on incompatible roadways/roadway types and/or through existing or planned land uses that are not intended for future Route N traffic							
	Yes - Alternative accommodates the efficient movement of traffic between project termini and efficient operation for trips remaining on existing Route N						No (Inefficient movement of traffic between project termini due to required turns)	
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Purpose and Need Element #1 - Need to Improve Access and Connectivity	Yes - Alternative provides improved access to key destinations and major Route N traffic generators							No (Does not provide improved access to destinations west of Route Z and underserves traffic generators west of Route Z and south of Route N)
	No - Alternative does not provide improved access to key destinations and/or underserves major Route N traffic generators							
	Yes - Alternative can be designed to be consistent with future Route N roadway type and traffic volumes consistent with planned land uses							No (Interstate Drive and Route Z design, roadway type, and planned landuses are not consistent with carrying Route N traffic)
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Need to Reduce Congestion and Delays

PURPOSE AND NEED ELEMENT	EVALUATION CRITERIA	STANDARDS	DECISION KEY (Yes/No)
<p>Purpose and Need Element #2 - Need to Reduce Congestion and Delays</p>	<p>A) Provide adequate capacity along Route N</p>	<p>Does the alternative provide capacity that exceeds the forecasted traffic demand along Route N?</p>	<p>Yes - Alternative provides sufficient capacity for traffic using existing and future Route N and does not adversely affect other area roadways</p> <p>No - Alternative does not provide sufficient capacity for traffic using existing Route N and/or adversely affects other area roadways</p>
	<p>B) Provide adequate operation at the project's key intersections and major driveways</p>	<p>Does the alternative offer the opportunity to provide peak hour LOS D (rural sections) or LOS E (urban sections) or better at key Route N intersections and improved operations at major driveways?</p>	<p>Yes - Alternative improves/accommodates efficient operation at existing and future Route N key intersections and major driveways</p> <p>No - Alternative does not improve/accommodate efficient operations at existing and future Route N key intersections and major driveways</p>
	<p>C) Provide access management opportunities along Route N</p>	<p>Does the alternative offer the opportunity to manage the number and spacing of access points along Route N?</p>	<p>Yes - Alternative provides opportunities to manage the number and spacing of access points along Route N*</p> <p>No - Alternative provides limited, if any, opportunities to manage the number and spacing of access points along Route N</p>





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	Yes - Alternative provides opportunities to manage the number and spacing of access points along Route N*	No						
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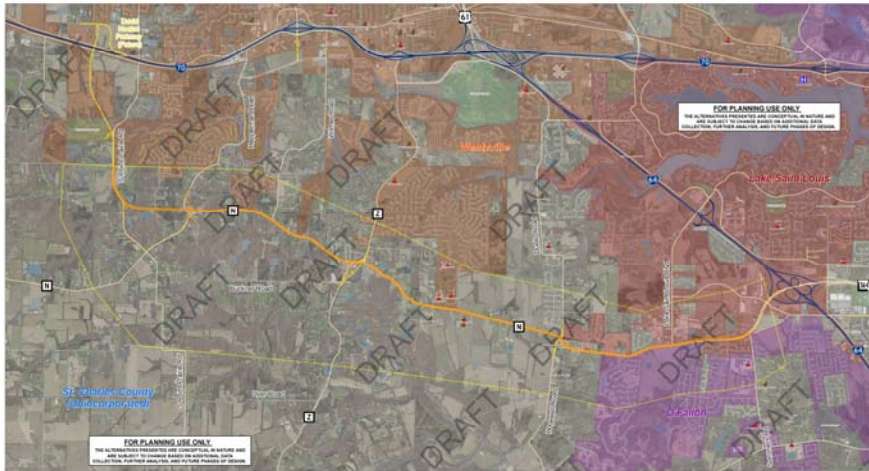
Overall Purpose and Need Screening Results

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Purpose and Need Element #2 - Need to Reduce Congestion and Delays	A) Provide adequate capacity along Route N	Does the alternative provide capacity that exceeds the forecasted traffic demand along Route N?	Yes - Alternative provides sufficient capacity for traffic using existing and future Route N and does not adversely affect other area roadways No - Alternative does not provide sufficient capacity for traffic using existing Route N and/or adversely affects other area roadways	No	Yes	Yes	Yes	No (Does not improve traffic flow on existing Route N given distance from existing Route N)	No (Adversely affects Interstate Drive and Wilmer Road)	No (Adversely affects Interstate Drive and Route Z)
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	C) Provide access management opportunities along Route N	Does the alternative offer the opportunity to manage the number and spacing of access points along Route N?	Yes - Alternative provides opportunities to manage the number and spacing of access points along Route N* No - Alternative provides limited, if any, opportunities to manage the number and spacing of access points along Route N	No	No (Limited opportunities for access management)	No (Limited opportunities for access management)	Yes*	Yes*	No (Limited opportunities for access management)	No (Limited opportunities for access management)
Number (%) of Purpose and Need elements met				0/6 (0%)	5/6 (83%)	5/6 (83%)	5/6 (83%)	2/6 (33%)	1/6 (17%)	0/6 (0%)
Reasonable Alternative?				Yes (By Rule)	Yes	Yes	Yes	No	No	No

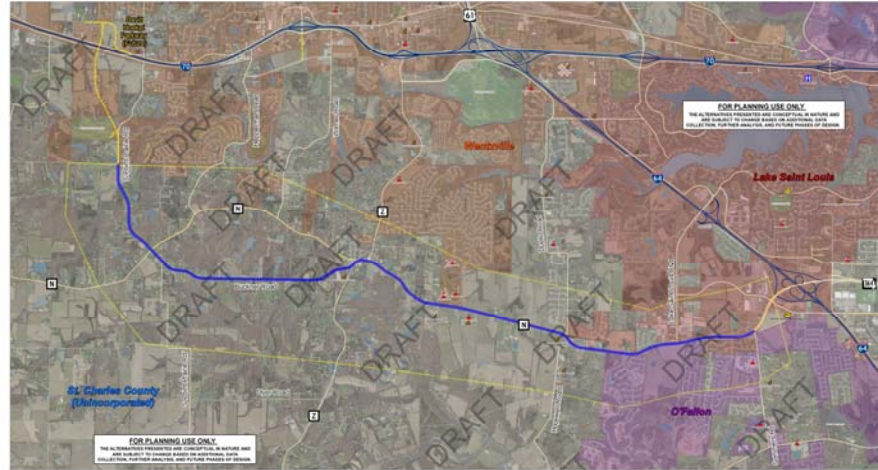
* Assumes that MoDOT will purchase access rights when acquiring Right-of-Way.



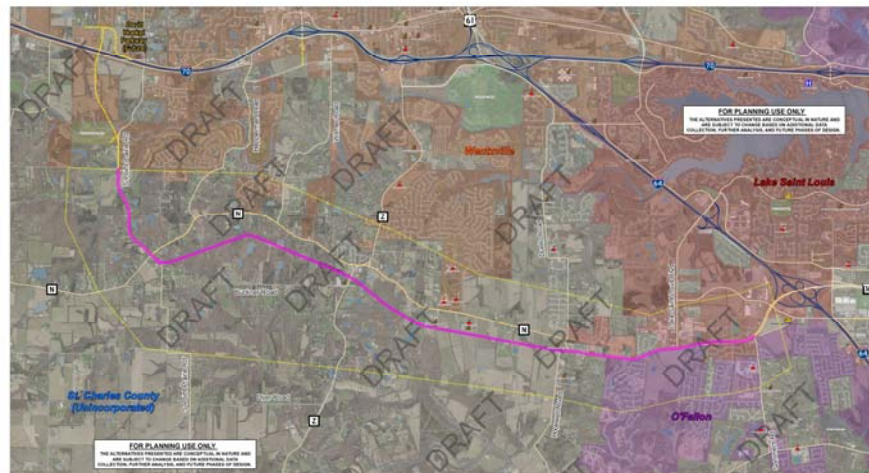
Route N NEPA Study Reasonable Alternatives



Improve Existing Alternative



Buckner Road Alternative

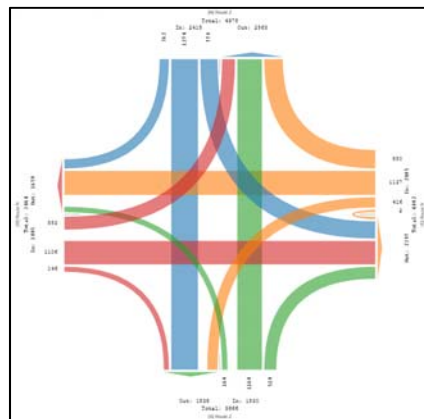


Near South Alternative

Traffic Model Updates

Traffic Data Collection

- Existing traffic counts from 2015 – 2018 acquired from MoDOT and St. Charles County
- Additional peak hour turning movement counts taken at 10 intersections in October 2018
- Coordinated field observations (e.g. queues) during October 2018 counts



Existing Traffic Operations

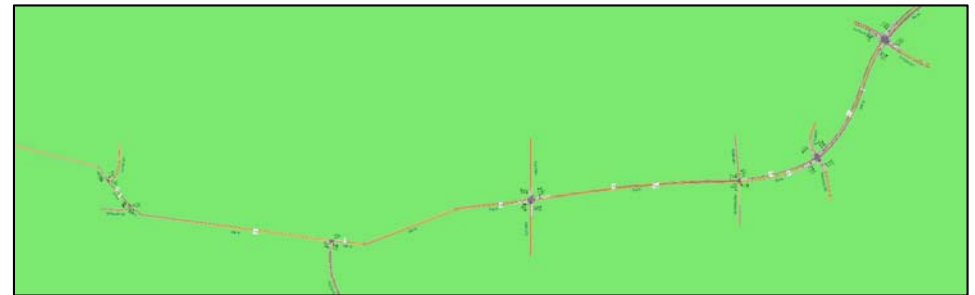
- AM & PM peak hour existing traffic operations analyzed using Synchro software
- 14 study intersections included in analysis
- Multiple intersections determined to be failing currently with a Level of Service “E” or “F”

Intersection	2018 Existing (AM)		2018 Existing (PM)	
	Delay ¹	LOS	Delay ¹	LOS
Route N & Hawk Ridge Trail ²	56.5	E	49.4	D
Route N & Sommers Rd	102.9	F	46.3	D
Route N & Red Baron Dr	>120 ³	F ³	76.4 ³	F ³
Route N & Lake St. Louis Blvd	21.7	C	27.0	C
Route N & Wyndgate Ridge Dr	58.5 ³	F ³	>120 ³	F ³
Route N & Hopewell Rd	104.9 ³	F ³	38.4 ³	E ³
Route N & Duello Rd	>120 ³	F ³	52.3 ³	F ³
Route N & Perry Cate Blvd ²	17.5	B	14.7	B
Route N & Route Z	59.9	F	61.3	F
Route N & Wilmer Rd	21.6 ³	C ³	18.5 ³	C ³
Route N & S Point Prairie Rd	12.0 ³	B ³	11.8 ³	B ³
S Point Prairie Rd & Jackson Rd	9.0 ³	A ³	9.6 ³	A ³
Buckner Rd & Route Z	11.4 ³	B ³	14.5 ³	B ³
Buckner Rd & S Point Prairie Rd	8.6 ³	A ³	8.5 ³	A ³

¹ Intersection delay (seconds per vehicle)

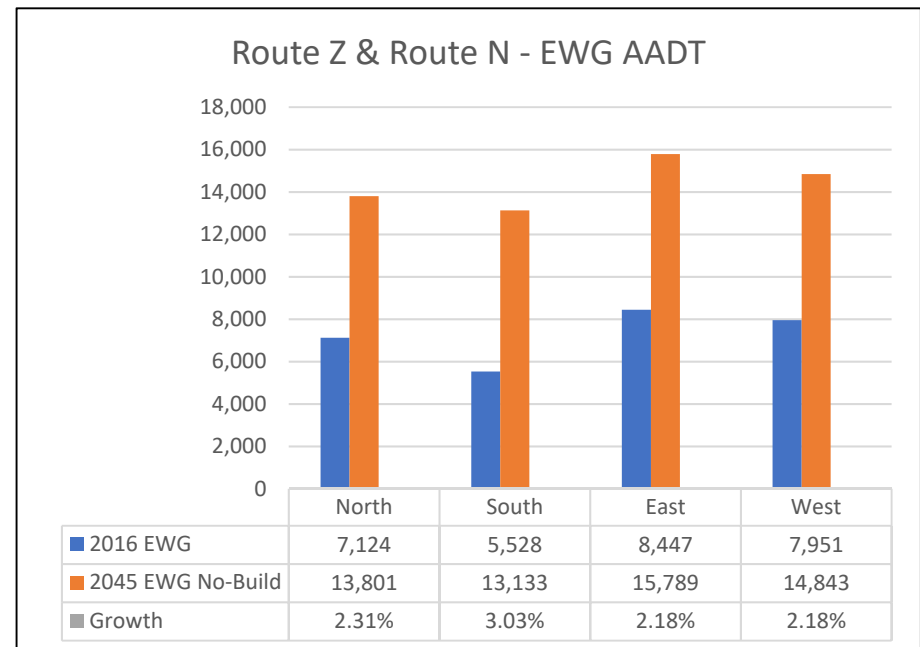
² Operations based on HCM 2000 methodology. N/A for HCM6 methodology.

³ Two-way stop controlled intersections display operations of worst movement only.



Traffic Forecasting

- 2045 forecasts in progress
- Two traffic forecasts will be developed:
 - No-build / unimproved Route N
 - Build / improved Route N
- East-West Gateway (EWG) calibrated models are being used with EWG and St. Charles County land-use data to help determine appropriate growth rates
- Forecasts will be used to size the improvements and to analyze traffic operations at the study intersections for the no-build and build alternatives



Next Steps



Detailed Analysis of the Reasonable Alternatives

Engineering Impacts

- Construction costs
- Traffic
- Utilities
- Constructability
- Drainage
- Safety
- R/W

Environmental Impacts

- Noise
- Land use/Habitat
- Endangered species
- Floodplains
- Wetlands
- Waterways
- Air quality



Detailed Analysis of the Reasonable Alternatives

- Community Impacts
 - Property acquisition – structures
 - Property acquisition – acres
 - Historic resources
 - Traffic/circulation/access
- The impacts of the Reasonable Alternatives will influence the selection of the project's Preferred Alternative





Project Schedule

- CAG #3, and Public Meeting #2 – February 2019
 - Conceptual Alternatives, screening of the Conceptual Alternatives and presentation of the Reasonable Alternatives
- Preferred Alternative – Early Summer 2019
- Approved EA – November 2019
- Completed EA – Early 2020



Questions and Discussion

Adjourn