



GERMANTOWN MEDICAL DISTRICT TRAFFIC STUDY


BMA Work Session
February 26, 2014



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MEETING AGENDA

- Project Background
- Purpose of the Study
- Land Use Scenarios
- Projected Traffic Volumes
- Future Capacity Analysis
- Improvement Alternatives
- Next Steps
- Questions



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SO, WHY ARE WE HERE?

- Provide Update on the Progress of Medical District Traffic Study
- Discuss Land Use Assumption for the Area
- Review Transportation Improvement Options
 - Immediate Needs:
 - Wolf River Boulevard at Germantown Road
 - Future Needs:
 - Additional improvements as area develops

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PROJECT BACKGROUND



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PURPOSE OF MEDICAL DISTRICT STUDY

- Evaluate traffic impacts of proposed developments or re-development of existing facilities to medical uses
- Provide Recommendations
 - Relieve Traffic Congestion
 - Resolve Operational Issues



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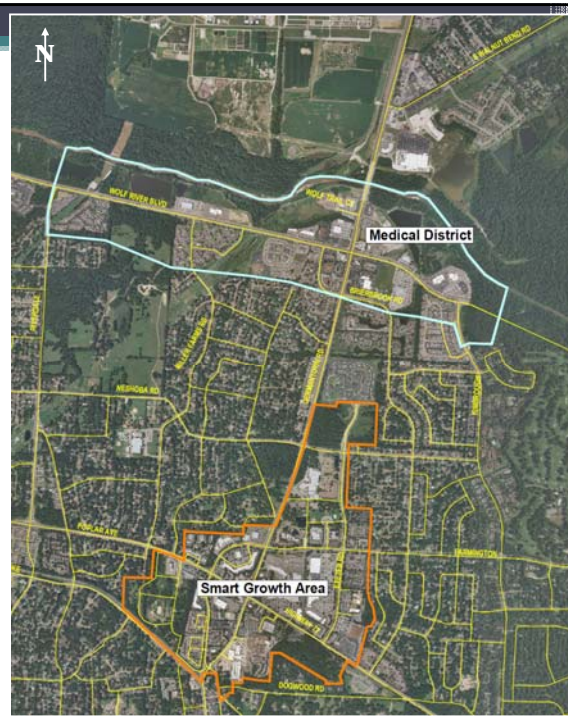
STUDY AREA

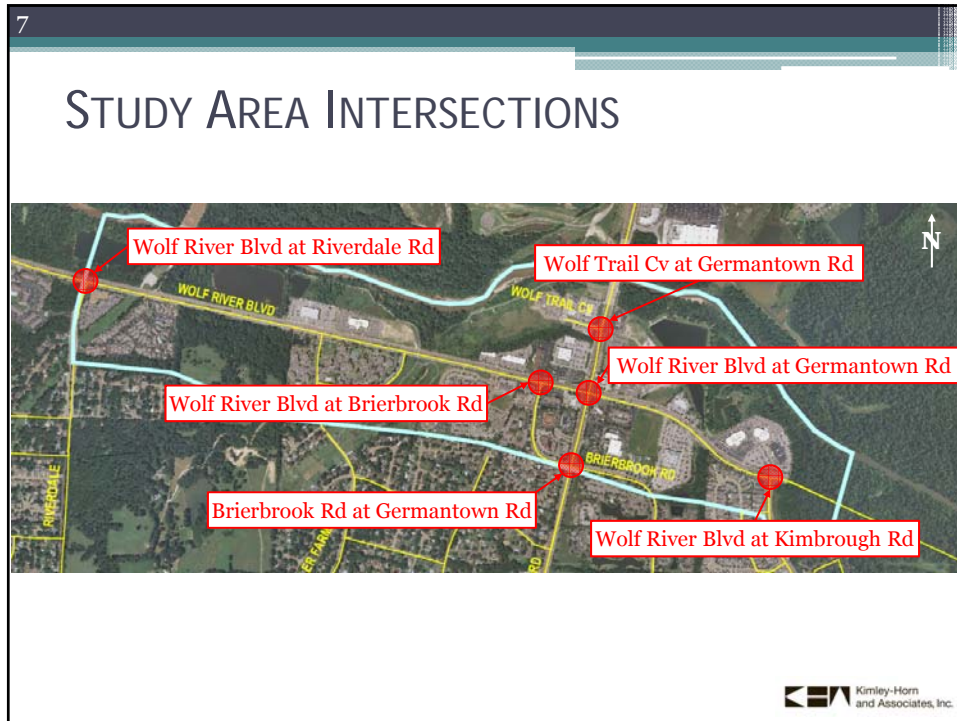
Western Boundary:
Riverdale Road

Northern Boundary:
The Wolf River

Eastern Boundary:
Kimbrough Road

Southern Boundary:
Brierbrook Road



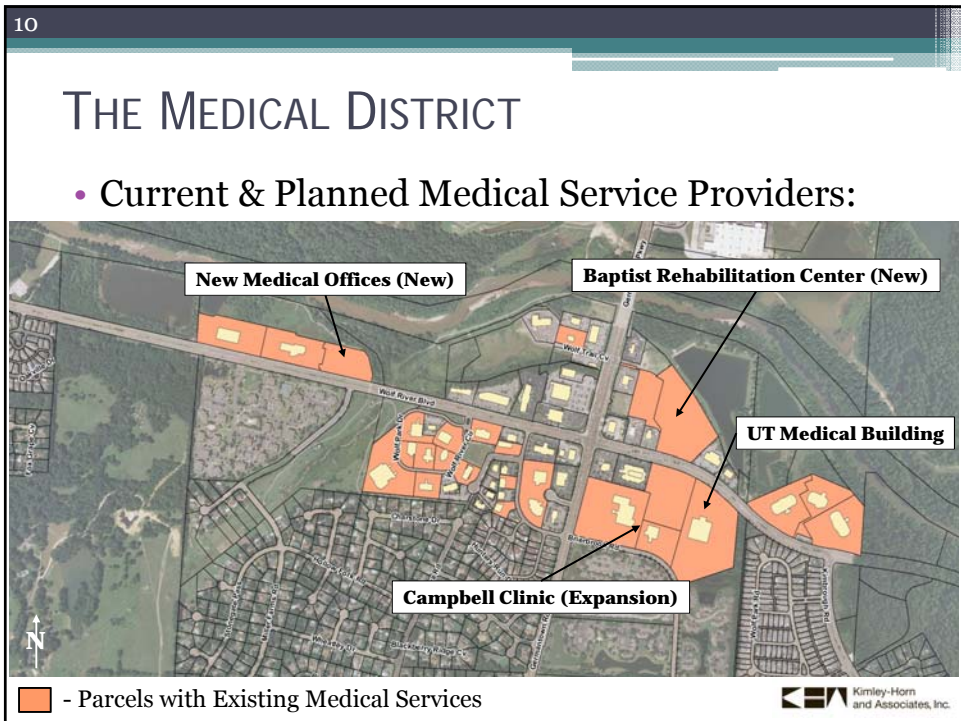
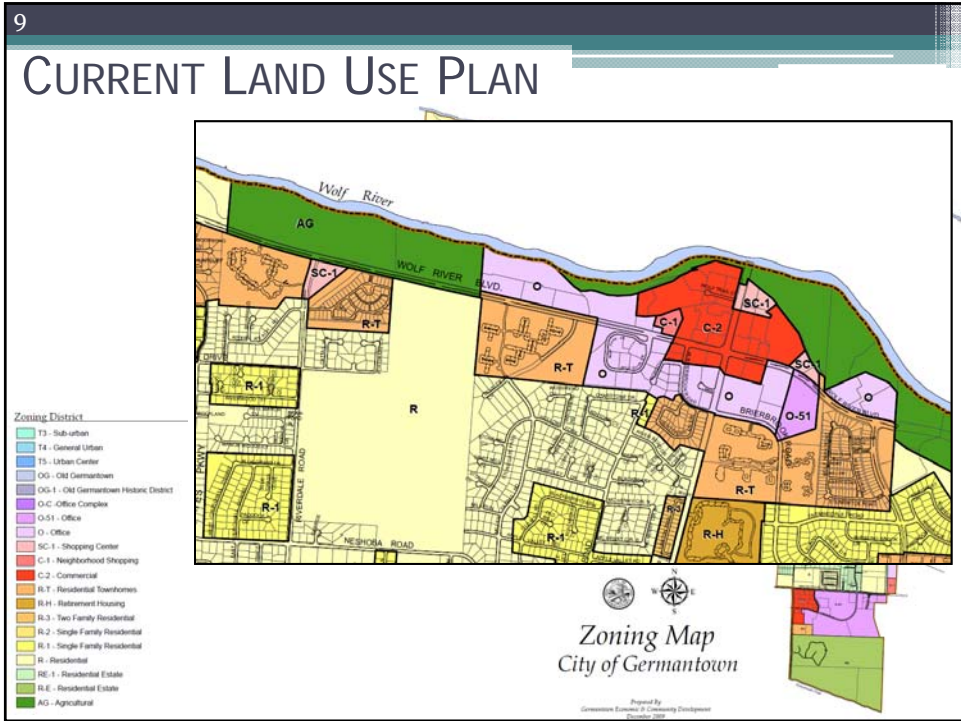


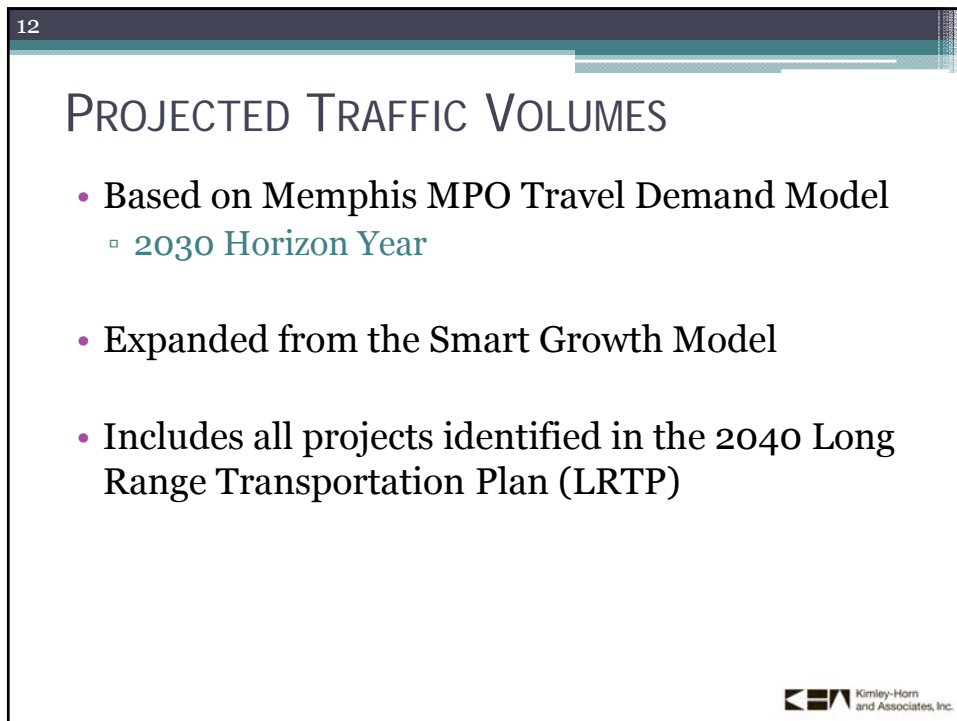
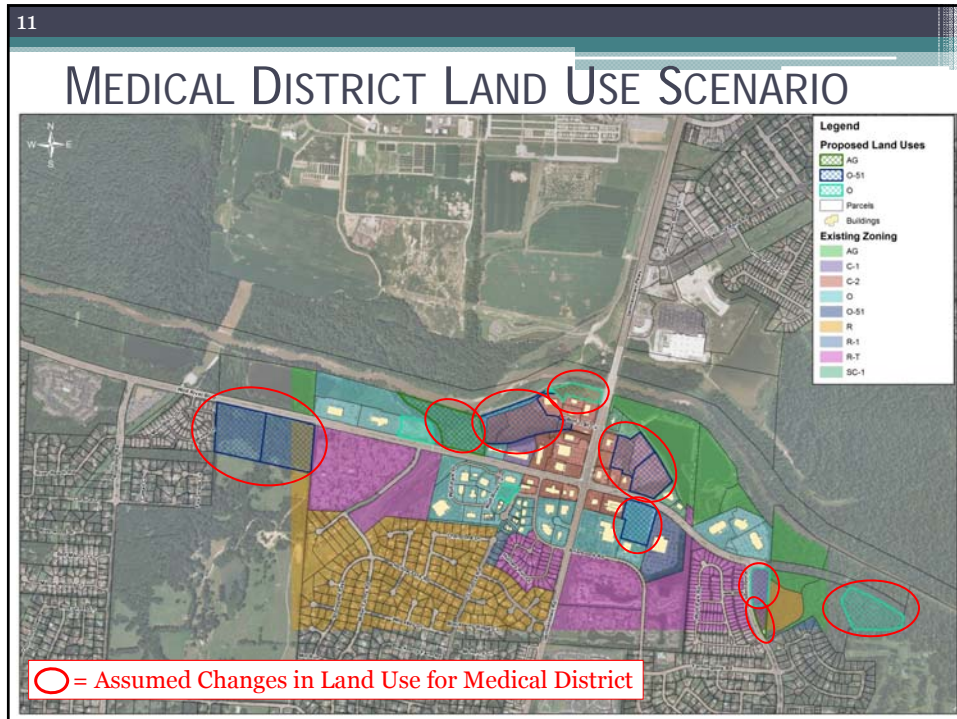
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LAND USE

- Two “Full Build-Out” Land Use Scenarios were reviewed:
 - Current Approved Land Use Plan (Approved 2009)
 - Medical District
 - Existing planned developments/expansions
 - Undeveloped parcels built out with medical services

Kimley-Horn and Associates, Inc.





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FUTURE SCENARIO CAPACITY ANALYSIS

- Traffic Conditions Modeled
 - Base Year (2008)
 - 2030 Current Land Use Plan
 - 2030 Medical District Land Use

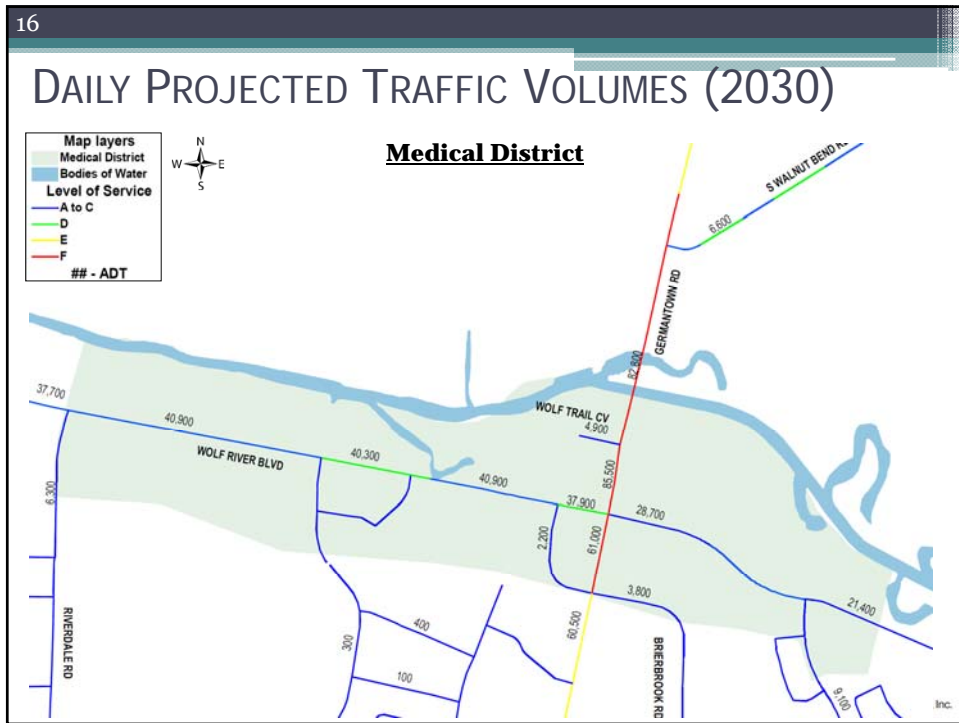
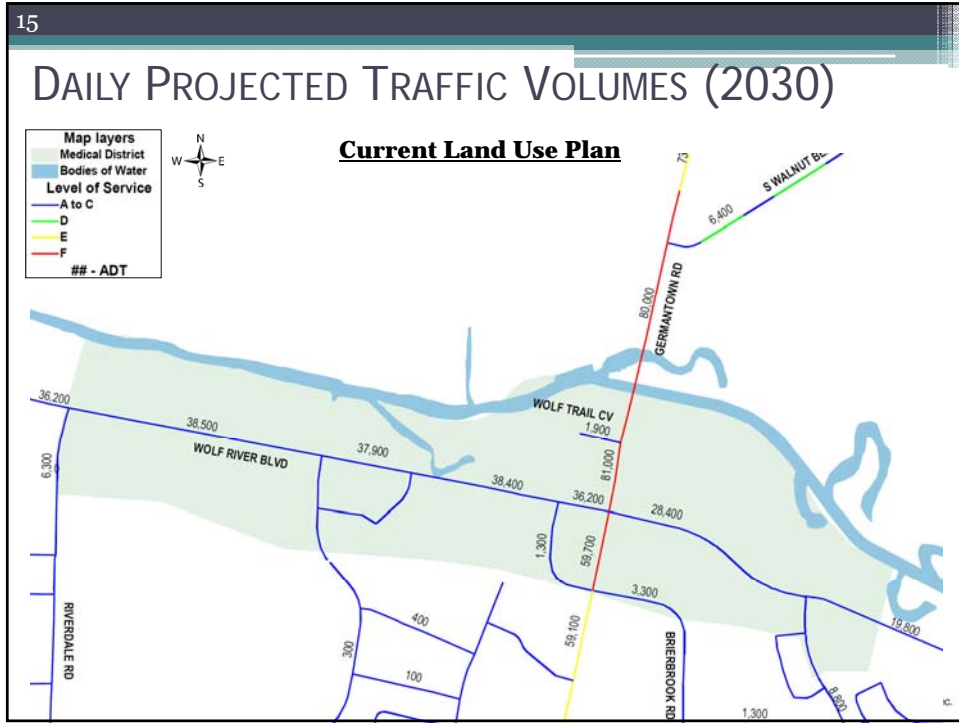
- Daily Traffic Volumes
- AM and PM peak hours



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DAILY TRAFFIC VOLUMES (2008)





FUTURE SCENARIO CAPACITY ANALYSIS

- Existing Roadway Configuration
- AM and PM Peak Hour:

Intersection	Control	Operations	Existing Conditions (2013)		2030 Current Land Use		2030 Medical District Land Use	
			AM	PM	AM	PM	AM	PM
Brierbrook Rd at Germantown Rd	Signal	Delay (sec/veh)	9.3	10.2	39.0	34.8	38.4	35.5
		LOS	A	B	D	C	D	D
Wolf River Blvd at Germantown Rd	Signal	Delay (sec/veh)	79.2	109.7	295.6	283.0	309.2	309.3
		LOS	E	F	F	F	F	F
Wolf Trail Cv at Germantown Rd	Signal	Delay (sec/veh)	21.8	15.5	66.5	63.7	107.7	79.3
		LOS	C	B	E	E	F	E
Wolf River Blvd at Brierbrook Rd	TWSC	Delay (sec/veh)	459.4	145.8	*	*	*	*
		LOS	F	F	F	F	F	F
Wolf River Blvd at Riverdale Rd	Signal	Delay (sec/veh)	10.7	31.4	22.2	49.9	30.7	54.5
		LOS	B	C	C	D	C	D
Wolf River Blvd at Kimbrough Rd	Signal	Delay (sec/veh)	NA	NA	11.7	13.7	12.7	31.2
		LOS	NA	NA	B	B	B	C

* Note: Excessive Delay



TRANSPORTATION IMPROVEMENTS

- Different Improvements were Reviewed:

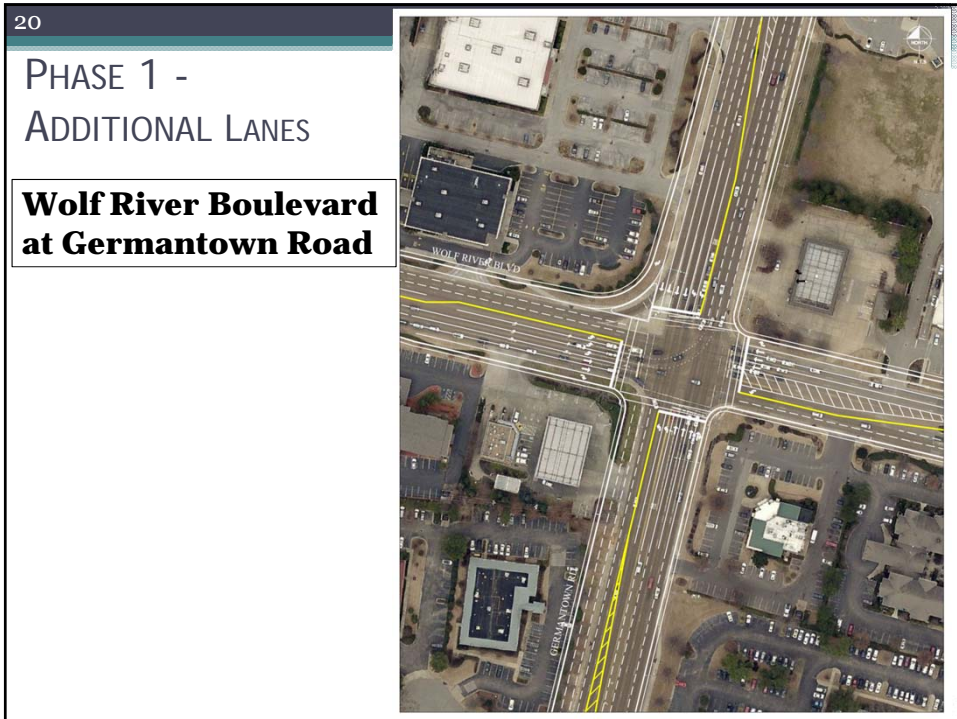
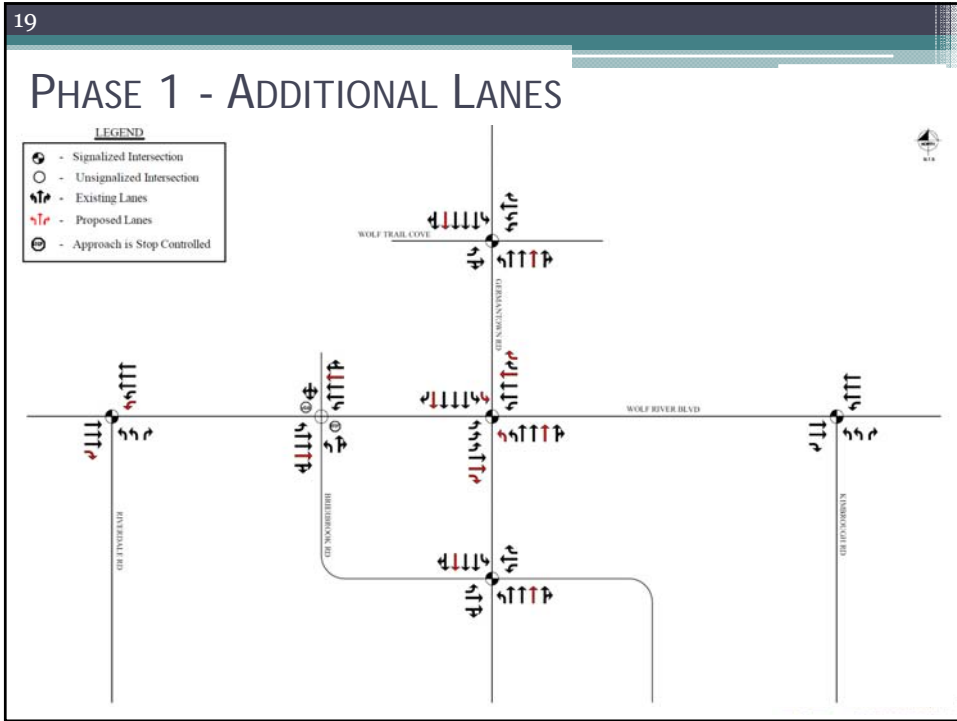
Phase 1 Improvements – Additional Lanes on Wolf River Boulevard and Germantown Road

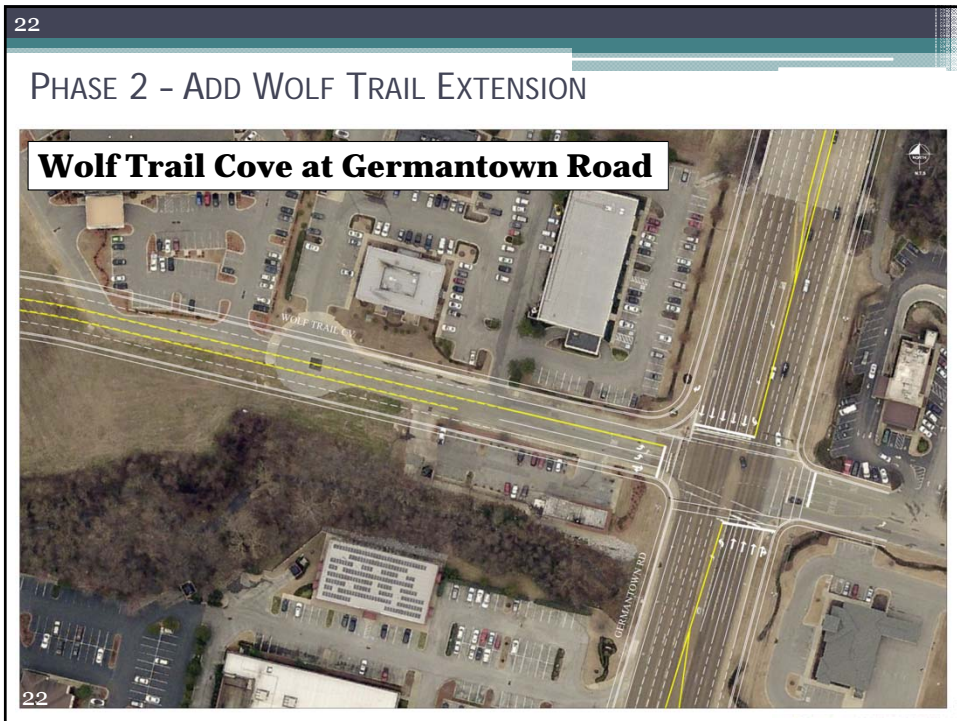
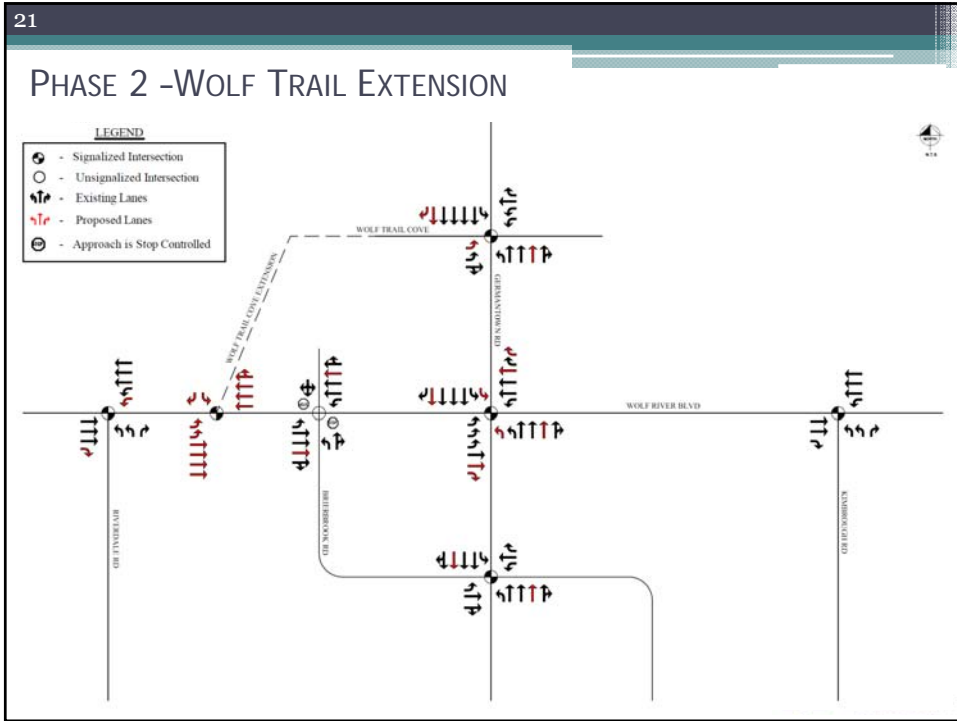
Phase 2 Improvements – Add Wolf Trail Extension

Phase 3 Improvements – Add New Parallel Routes

Single Point Urban Interchange (SPUI)





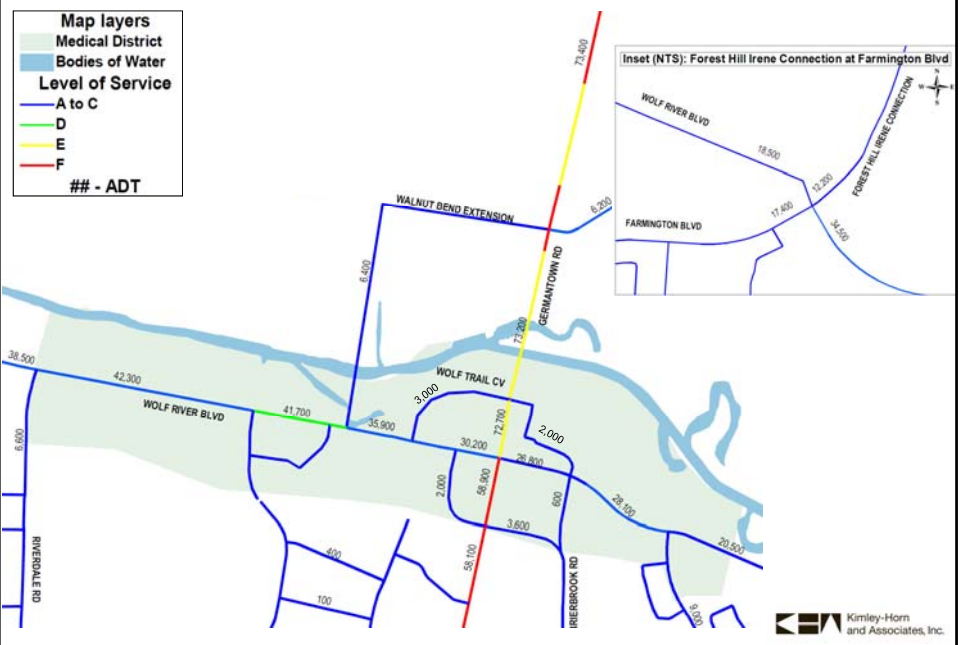


PHASE 3 - ADD NEW PARALLEL ROUTES

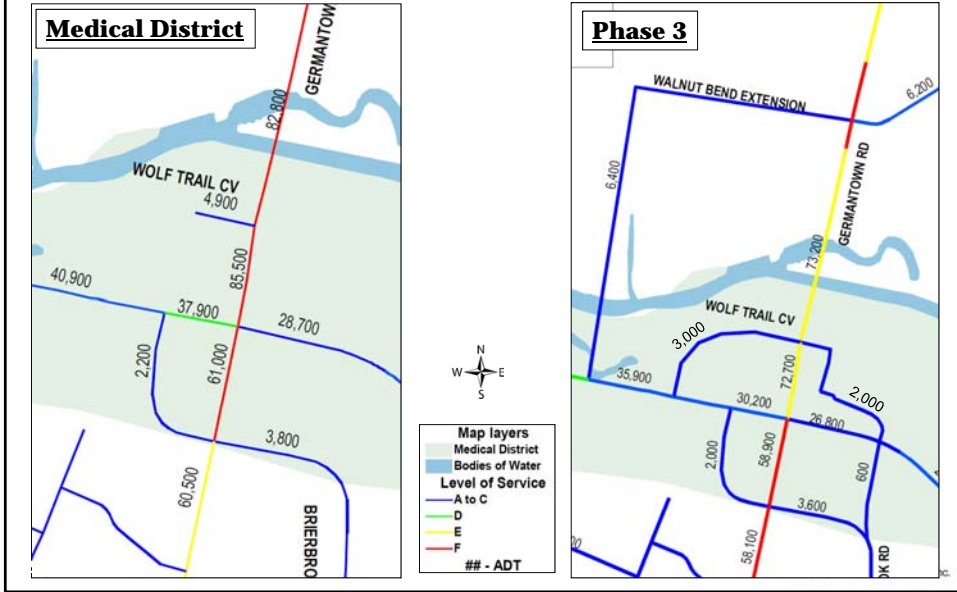
- Added new connections around Wolf River Blvd at Germantown Road
 - Wolf Trail Extension (NW Corner)
 - Brierbrook Connection (SE to NE corner)
- Extended Walnut Bend
 - North of the Wolf River down to Wolf River Blvd west of Germantown Road
- Extended Farmington Blvd over the Wolf River to Forest Hill Irene



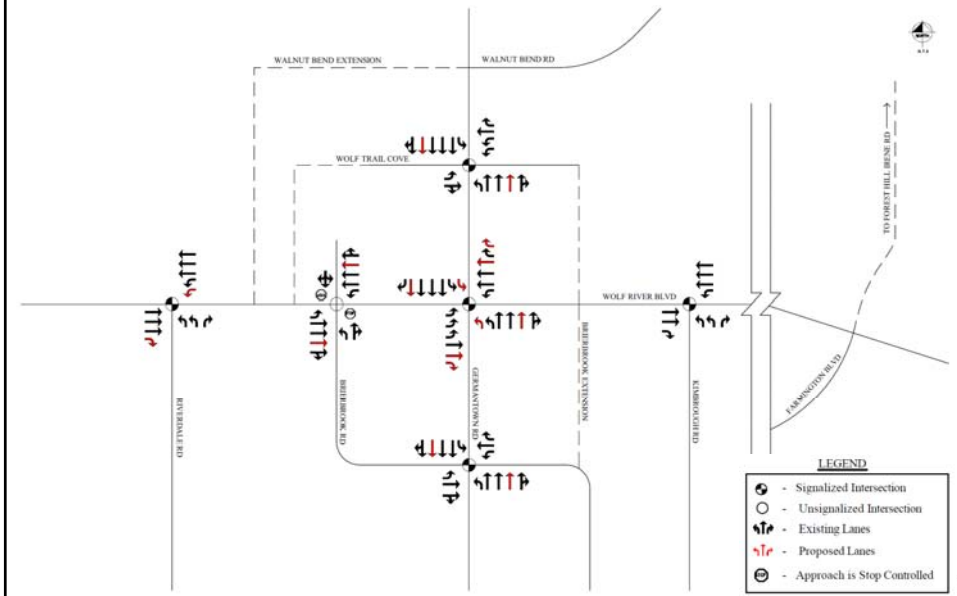
PHASE 3 - ADDITIONAL LANES WITH NEW PARALLEL ROUTES



COMPARISON OF VOLUMES



PHASE 3 - ADDITIONAL LANES WITH NEW PARALLEL ROUTES



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COMPARISON OF PHASES (AM PEAK HOUR)

Intersection	Control	Operations	AM Peak Hour						
			Existing Conditions	2030 Current Land Use	2030 Medical District	Phase 1	Phase 2	Phase 3	
Brierbrook Rd at Germantown Rd	Signal	Delay (sec/veh)	9.3	39.0	38.4	14.3		13.3	
		LOS	A	D	D	B		B	
Wolf River Blvd at Germantown Rd	Signal	Delay (sec/veh)	79.2	295.6	309.2	150.9	69.0	76.3	
		LOS	E	F	F	F	E	E	
Wolf Trail Cv at Germantown Rd	Signal	Delay (sec/veh)	21.8	66.5	107.7	52.1	28.6	16.4	
		LOS	C	E	F	D	C	B	
Wolf River Blvd at Brierbrook Rd	TWSC	Delay (sec/veh)	459.4	*	*	*		*	
		LOS	F	F	F	F		F	
Wolf River Blvd at Riverdale Rd	Signal	Delay (sec/veh)	10.7	22.2	30.7	26.3		43.4	
		LOS	B	C	C	C		C	
Wolf River Blvd at Kimbrough Rd	Signal	Delay (sec/veh)	NA	11.7	12.7	12.8		10.5	
		LOS	NA	B	B	B		B	
Wolf River Blvd at Wolf Trail Bypass	Signal	Delay (sec/veh)					9.9		
		LOS					A		

* Note: Excessive Delay

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COMPARISON OF ALTERNATIVES (PM PEAK HOUR)

Intersection	Control	Operations	PM Peak Hour						
			Existing Conditions	2030 Current Land Use	2030 Medical District	Phase 1	Phase 2	Phase 3	
Brierbrook Rd at Germantown Rd	Signal	Delay (sec/veh)	10.2	34.8	35.5	28.3		30.5	
		LOS	B	C	D	C		C	
Wolf River Blvd at Germantown Rd	Signal	Delay (sec/veh)	109.7	283.0	309.3	156.0	92.3	60.0	
		LOS	F	F	F	F	F	E	
Wolf Trail Cv at Germantown Rd	Signal	Delay (sec/veh)	15.5	63.7	79.3	30.0	64.0	12.6	
		LOS	B	E	E	C	E	D	
Wolf River Blvd at Brierbrook Rd	TWSC	Delay (sec/veh)	145.8	*	*	*		*	
		LOS	F	F	F	F		F	
Wolf River Blvd at Riverdale Rd	Signal	Delay (sec/veh)	31.4	49.9	54.5	32.7		36.0	
		LOS	C	D	D	C		D	
Wolf River Blvd at Kimbrough Rd	Signal	Delay (sec/veh)	NA	13.7	31.2	23.7		13.7	
		LOS	NA	B	C	C		B	
Wolf River Blvd at Wolf Trail Bypass	Signal	Delay (sec/veh)					24.8		
		LOS					C		

* Note: Excessive Delay

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SINGLE POINT URBAN INTERCHANGE



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NEXT STEPS

- What's Next?
- Proceeding with Wolf River Boulevard at Germantown Road Intersection Improvements
- Input on Land Use Assumptions
 - Desired future land use for this area
 - Medical vs. other uses?
 - Land use for undeveloped parcels
 - Potential redevelopment of existing parcels
 - Other land use scenarios
- Input on Transportation Alternatives
 - Phases 2 and 3
 - Additional considerations

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QUESTIONS?



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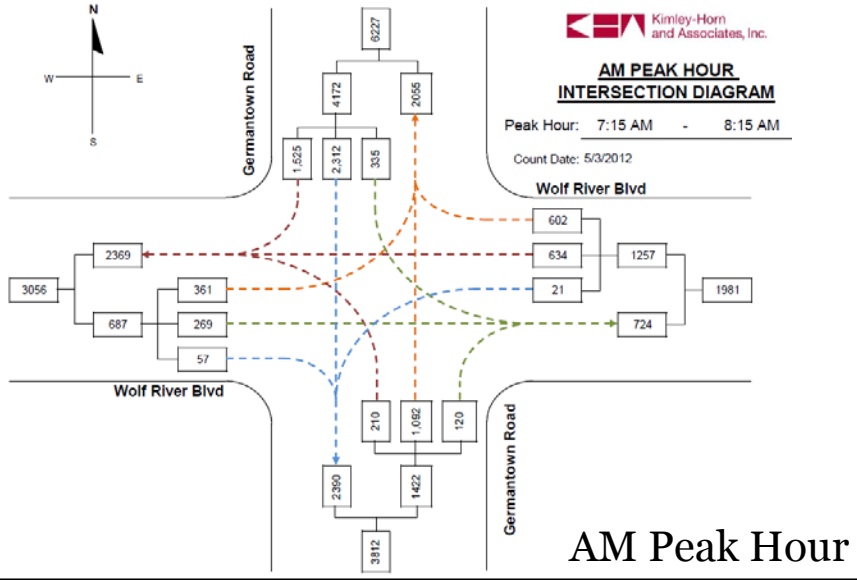
TRAVEL DEMAND MODELING

- Regional Travel Demand Model (2030)
 - 2008 Base / 2030 Build Out
 - Smart Growth Subarea Model
- Regional Travel Demand Model (2040)
 - 2010 Base / 2040 Build Out
- Expanded and Updated Smart Growth Model
 - 2008 Base / 2030 Build Out
 - Germantown – 2030 Smart Growth
 - Everything else – 2040 Regional Travel Demand Model
 - 2008 Base year validated against 2008 counts
 - Included updated 2040 LRTP Projects



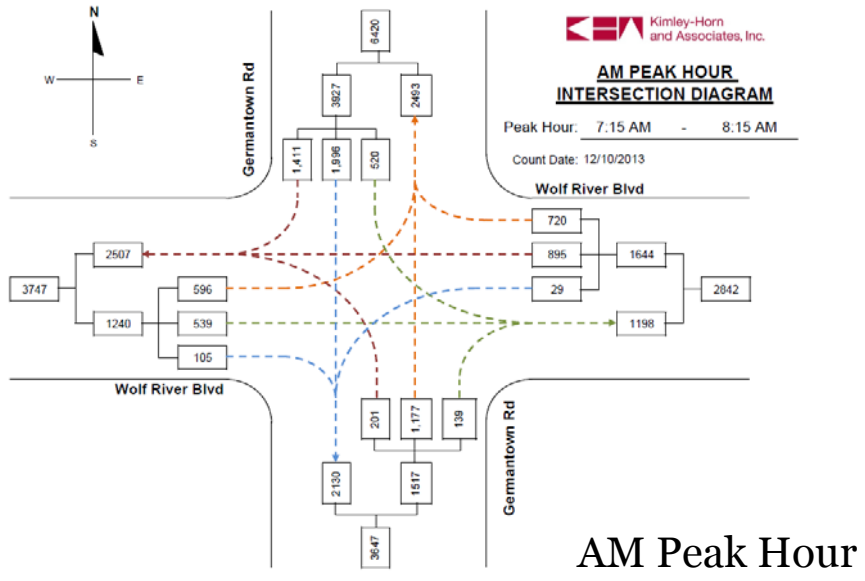
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WOLF RIVER AT GERMANTOWN (BEFORE)



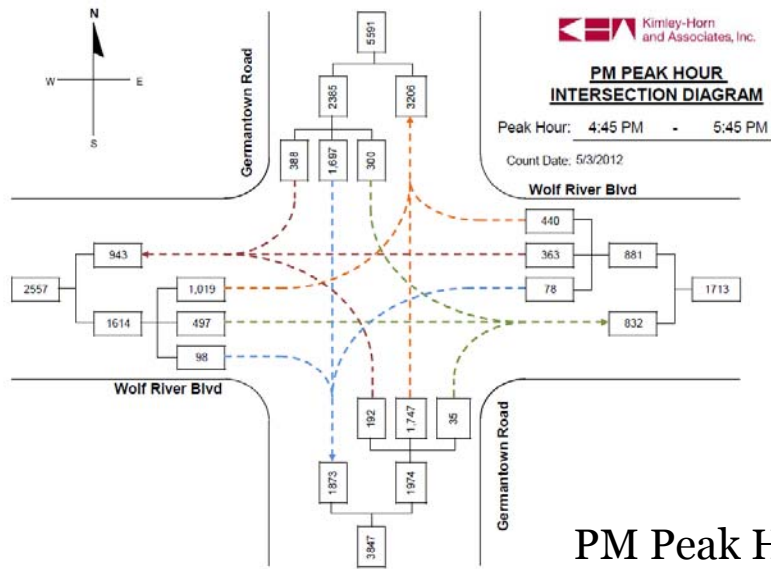
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WOLF RIVER AT GERMANTOWN (AFTER)



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WOLF RIVER AT GERMANTOWN (BEFORE)



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WOLF RIVER AT GERMANTOWN (AFTER)

