Benn's Church @ Turner Dr

Small Area/Master TIA

Board of Supervisors

August 15, 2024

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Small Area/Master TIA Needs Assessment

- Multiple adjacent parcels proposing development on related timelines
- Related and/or collaborative ownership
- Growth & mixed-use corridor (IOW and Smithfield Comp Plans)
- State VTRANS needs corridor, multiple recent grant apps & projects
- HRTPO Long Range Transportation Study 2045 congestion corridor
- IOW Safety Study corridor (IOW 2023 Turner Dr Safety Study)
- Across municipal boundaries
- Multiple Agency stakeholders

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Small Area/Master TIA Value

- Efficiency for development community
- Multi-jurisdictional communication
- Long-term planning and funding

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Small Area/Master TIA Stakeholder Group

- Public/Private Partnership
- Land Owners
- Contract developers/Commercial developers
- Retail/Residential developer
- School District
- County/Town Staff (multiple disciplines)
- VDOT (multiple disciplines)
- 3rd party engineering

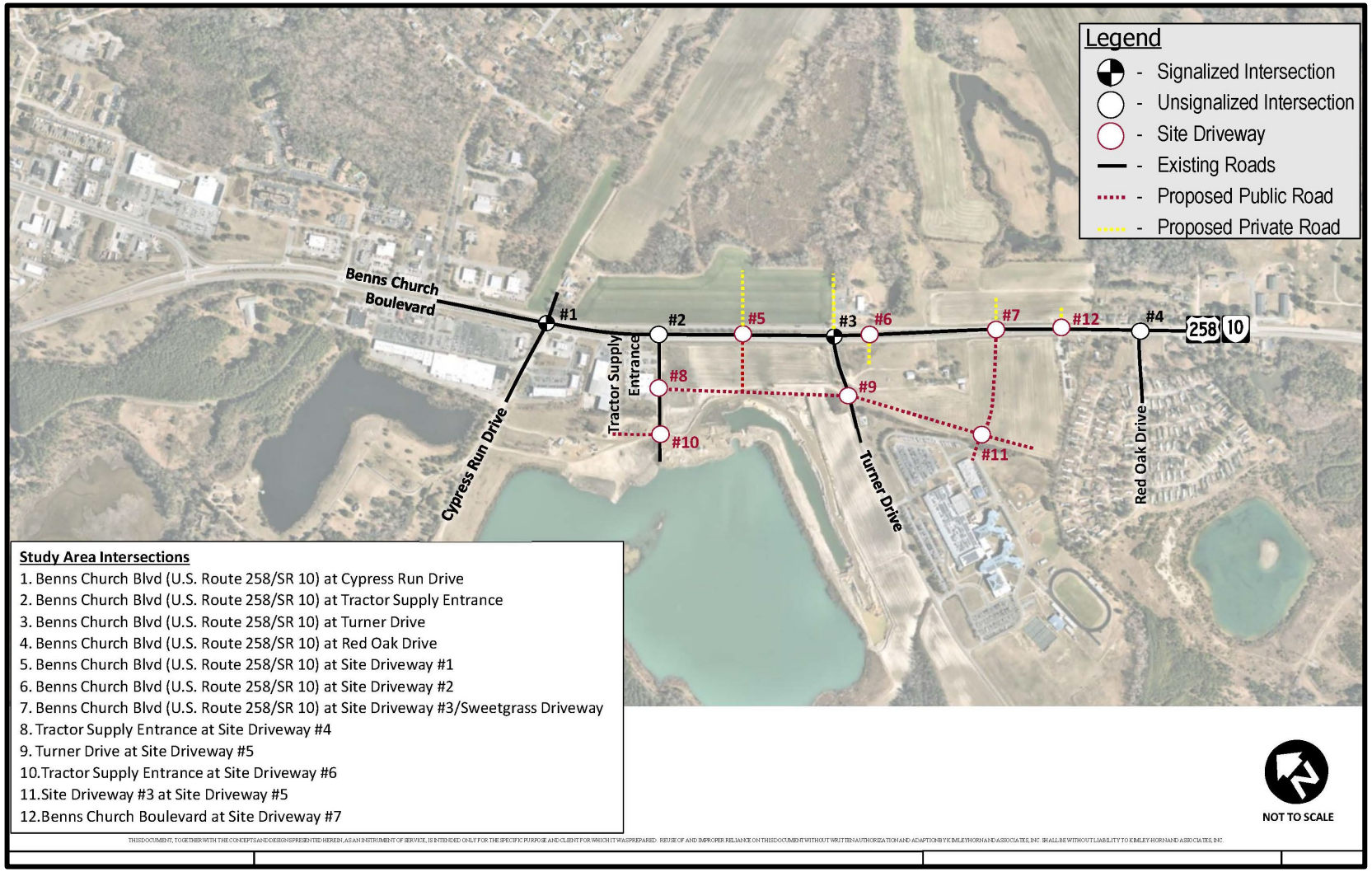
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Small Area/Master TIA Process

- Develop consensus of background and calculation assumptions
  - Based on County/Town Comp Plans
  - Based on County/Town background projection methodologies
  - Based on VDOT/Industry traffic volume tables
- Develop consensus of build out years for modeling
  - Based on private sector feedback
  - Based on P&Z process feedback
- Model build out years
- Develop recommendations based on modeling results
- Utilize results to minimize future individual TIA efforts
- Efficiently pursue future improvements based on recommendations

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Small Area/Master TIA, In Real Life

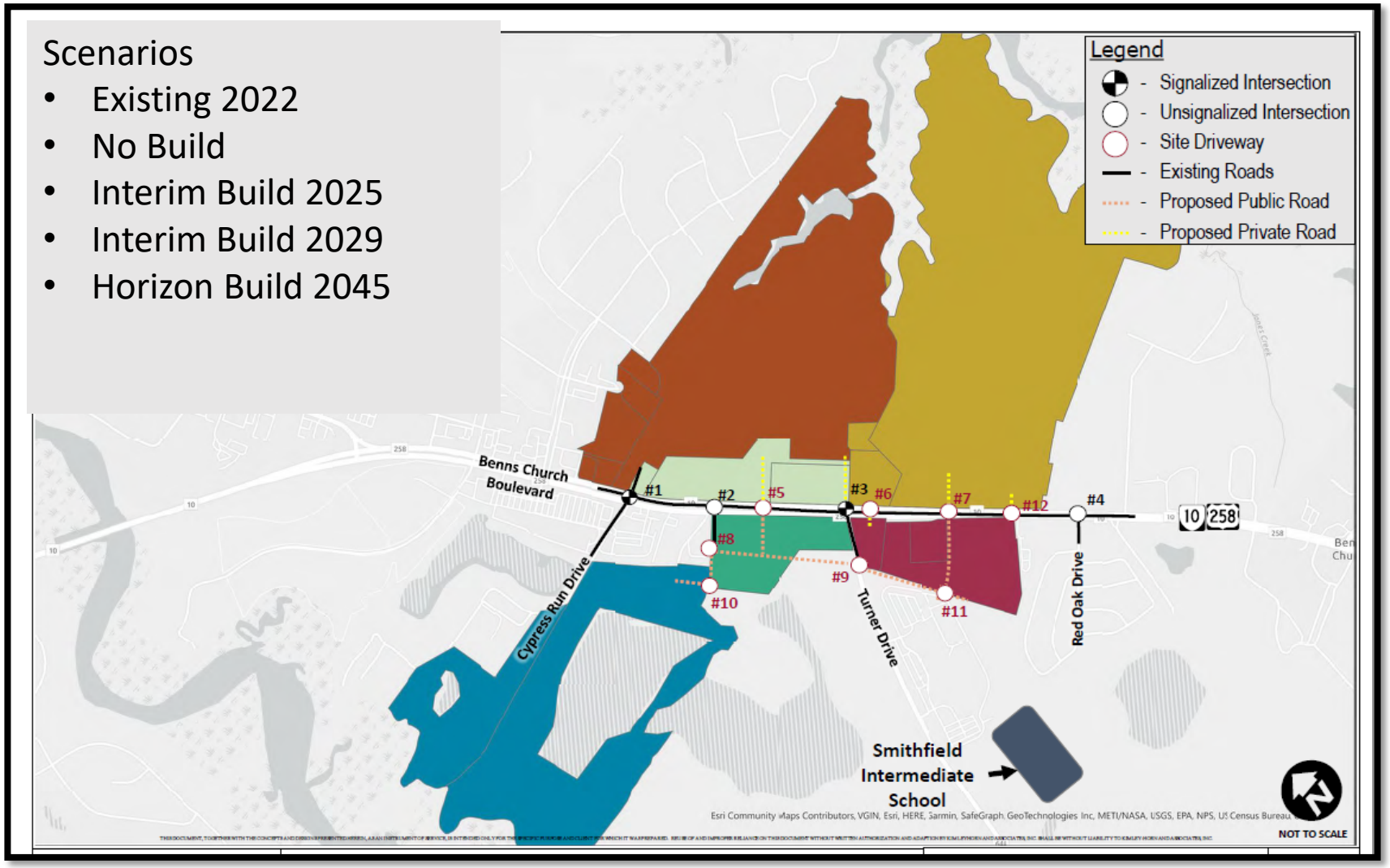


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Small Area/Master TIA, In Real Life

Scenarios

- Existing 2022
- No Build
- Interim Build 2025
- Interim Build 2029
- Horizon Build 2045



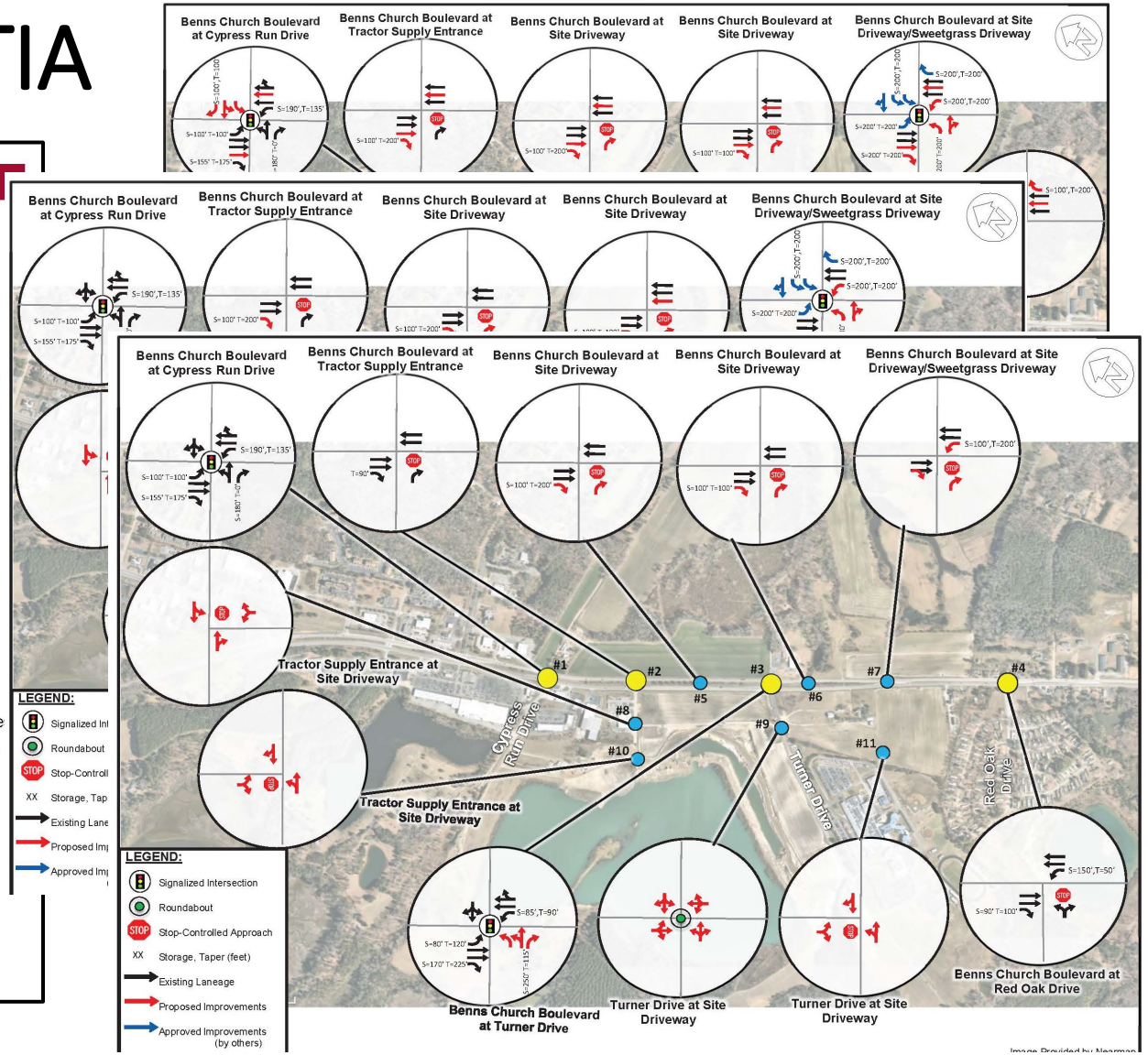
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Small Area/Master TIA

5.0 TRAFFIC ANALYSIS

Capacity analyses for all study intersections were performed under the peak hour conditions for the following scenarios:

- Scenario 1 – Existing (2022) traffic conditions
- Scenario 2 – Interim Year (2025) No-Build – Interim year traffic conditions (i.e., future traffic volumes *with* a 1.0% growth rate applied *without* projected site traffic) with existing roadway conditions.
- Scenario 3 – Interim Year (2025) Build – Interim year traffic conditions (i.e., future traffic volumes *with* a 1.0% growth rate applied *with* projected site traffic) with proposed roadway improvements. The projected site traffic includes the following proposed developments:
  - Turner North – Parcels 2 and 5
  - Turner South – Parcels 6 and 13
- Scenario 4 – Future Year (2029) Build – Future year traffic conditions (i.e., future traffic volumes *with* a 1.0% growth rate applied *with* projected site traffic) with proposed roadway improvements. The projected site traffic includes the following proposed developments:
  - Turner North – Full Build-Out
  - Turner South – Full Build-Out
  - 50% of Smithfield Development
  - Smithfield Intermediate School
  - Sweetgrass – Full Build-Out
- Scenario 5 – Horizon Year (2045) Build – Horizon year traffic conditions (i.e., future traffic volume *with* a 1.0% growth rate applied *with* projected site traffic) with proposed roadway improvements. The projected site traffic includes the following proposed developments:
  - Turner North – Full Build-Out
  - Turner South – Full Build-Out
  - Smithfield Development – Full Build-Out
  - Smithfield Intermediate School
  - Sweetgrass – Full Build-Out



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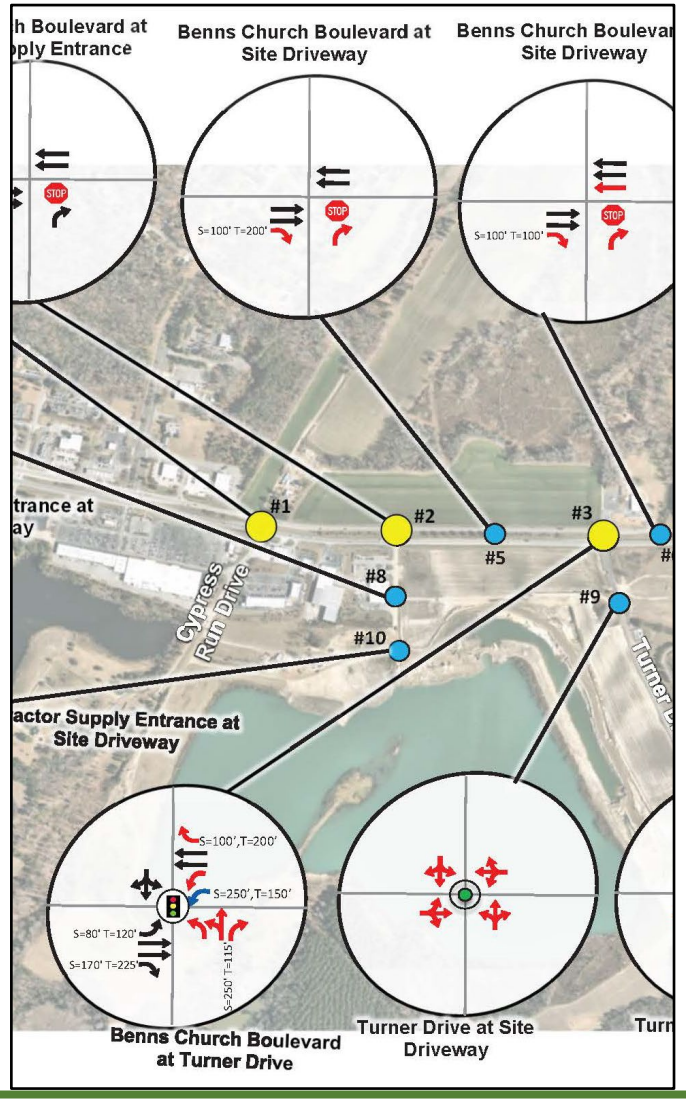
Small Area/Master TIA Key Recommendations

- 2025 *(only Turner North and South blocks)*
  - Turn lane improvements needed north and south on Rt 10
  - Turn lane improvements needed on Turner
  - Single lane roundabout needed
- 2029 *(additional Turner North and South + Sweetgrass, School and 50% other)*
  - Signal at Sweetgrass/Rt 10 intersection
  - 2nd left turn lane at Rt 10/Turner
- 2045 *(all blocks full development)*
  - Widen Rt 10 to 6 lanes

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Revenue Sharing 2023 Application

- FY27 Funding
- Based on Interim 2029 Recommendation
- Dual lefts from Rt 10 to Turner
  - Outside left is a possible thru drop-lane as prelim segment of widening Rt 10
- Single lane roundabout on Turner providing future 4-way access
- Application $7.6M
  - Approved for partial funding $2.2M from VDOT
  - Requires additional $4.5M to complete funding



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Revenue Sharing and Public/Private Partnerships

Previous Experiences

- County/Private Development
  - Benns Grant Intersection Improvements
  - Nike Park Extended
- County/Town
  - Shiloh Drive Sidewalk
  - Smithfield Sidewalk

Key Features

- VDOT agreements ONLY between State and County
- Funding agreements must commit to any cost overruns required to complete the project
- Construction process must meet VDOT/FHWA specs
- Secondary agreements/MOUs required between County and partners
  - Total funding commitment
  - Collection mechanisms
  - Collection timeline
  - Confirm project admin authority

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Revenue Sharing and Public/Private Partnerships

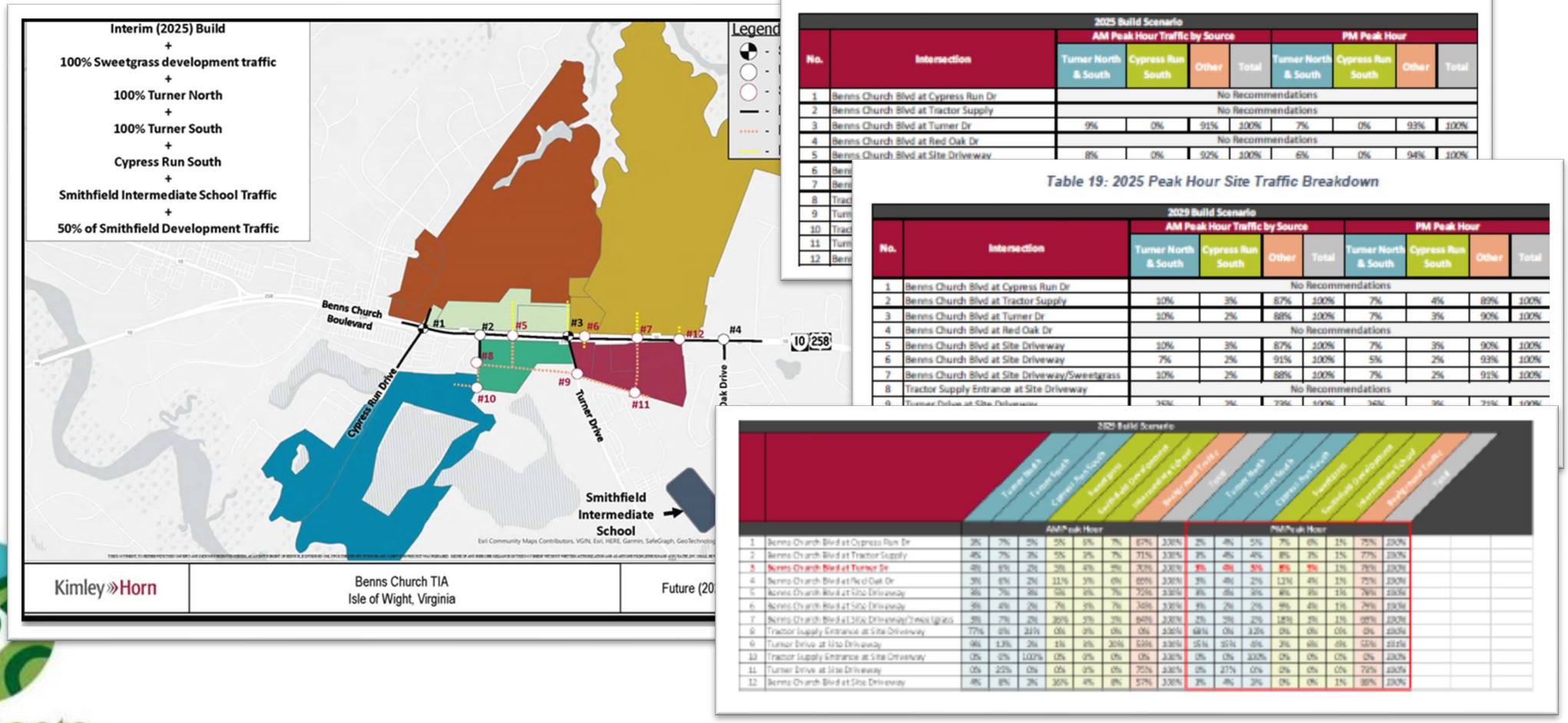


Table 18: 2025 Peak Hour Site Traffic Breakdown

No.	Intersection	2025 Build Scenario							
		AM Peak Hour Traffic by Source				PM Peak Hour			
		Turner North & South	Cypress Run South	Other	Total	Turner North & South	Cypress Run South	Other	Total
1	Benns Church Blvd at Cypress Run Dr	No Recommendations							
2	Benns Church Blvd at Tractor Supply	No Recommendations							
3	Benns Church Blvd at Turner Dr	9%	0%	91%	100%	7%	0%	93%	100%
4	Benns Church Blvd at Red Oak Dr	No Recommendations							
5	Benns Church Blvd at Site Driveway	8%	0%	92%	100%	6%	0%	94%	100%
6	Benns								
7	Benns								
8	Tract								
9	Turn								
10	Tract								
11	Turn								
12	Benns								

Table 19: 2025 Peak Hour Site Traffic Breakdown

No.	Intersection	2029 Build Scenario							
		AM Peak Hour Traffic by Source				PM Peak Hour			
		Turner North & South	Cypress Run South	Other	Total	Turner North & South	Cypress Run South	Other	Total
1	Benns Church Blvd at Cypress Run Dr	No Recommendations							
2	Benns Church Blvd at Tractor Supply	10%	3%	87%	100%	7%	4%	89%	100%
3	Benns Church Blvd at Turner Dr	10%	2%	88%	100%	7%	3%	90%	100%
4	Benns Church Blvd at Red Oak Dr	No Recommendations							
5	Benns Church Blvd at Site Driveway	10%	3%	87%	100%	7%	3%	90%	100%
6	Benns Church Blvd at Site Driveway	7%	2%	91%	100%	5%	2%	93%	100%
7	Benns Church Blvd at Site Driveway/Sweetgrass	10%	2%	88%	100%	7%	2%	91%	100%
8	Tractor Supply Entrance at Site Driveway	No Recommendations							
9	Turner Drive at Site Driveway	25%	2%	73%	100%	26%	3%	71%	100%

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Revenue Sharing and Public/Private Partnerships

Benns Church/Turner Dr Improvements											
2029 Build Out Scenario (per page 43-44, Figure 5, Master Plan)											
**revised 08/15/2024*											
	Contribution as % of total *(PM Peak)*		**Contribution as % of New Dev ONLY** *(PM Peak)*		**Contribution % as $ of total Funding Needed** *($4,513,268)*		**Contribution per Private Proposal (see sheet #2)**		**Contribution as % of total cost per Private Proposal**	
Turner North	3%		13%		$ 586,725		$ 600,000		13%	*same*
Turner South	4%		17%		$ 767,256		$ 400,000		9%	*less*
Cypress Run South	3%		13%		$ 586,725		$ 1,059,000		24%	*more*
Sweetgrass	8%		33%		$ 1,489,378		$ 500,000		11%	*less*
IOW Middle School	1%		4%		$ 180,531		$ 785,000		17%	*more*
Other Smfd Dev *(at 50% bld out in 2029)*	5%		21%		$ 947,786		$ 1,156,000		26%	*more*
			100%		**$ 4,558,401**		**$ 4,500,000**		**100%**	
Background Traffic	*76%*									
	100%									
Total New Dev	**24%**									
Background	76%									
	100%									
Project Estimate	**$ 7,686,167**									
Rev Shar Grant	$ 2,200,655									
IOW Smart Scale Grant	$ 972,244									
other IOW funds	$ -									
other Town Smfd funds	$ -									
Funding Needed	**$ 4,513,268**									
Rev Shar Match Required	$ 2,200,655									
Shortfall Required	$ 2,312,613									
Funding Needed	**$ 4,513,268**									

Next Steps

Revenue Sharing Award Agreement has been received (08/01/2024)

- IOW acceptance required in 90 days (11/01/24)
- PE FY27, CON FY29
- Strong opportunity to advance PE/CON to FY26, if accepted

1. **Accept funds**
   - Develop MOUs with private and Town partners
   - Organize collection mechanisms
   - Negotiate possible project advancement

2. **Do Not Accept funds**
   - VDOT cancels project, funds go to other locality
   - Individual developers TIA will be required to address overall needs in Master Plan with each submittal
   - IOW can pursue background needs via other applications
     - Funding cycles are currently FY30-FY34

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Questions?

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