



# **Enhancing Rural Economics and Infrastructure**

## **Georgia Ready for Accelerated Development (GRAD) Site Assessment**

### **GDOT Office of Planning**

**GPA/TAPA Joint Fall Conference**

**October 6, 2021**

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Garth Lynch, PE, AICP – HNTB PM

## Agenda

- GRAD Site Overview
- Transportation Database
- Screening Process
- Screening Results
- Engineering Assessment
- Next Steps



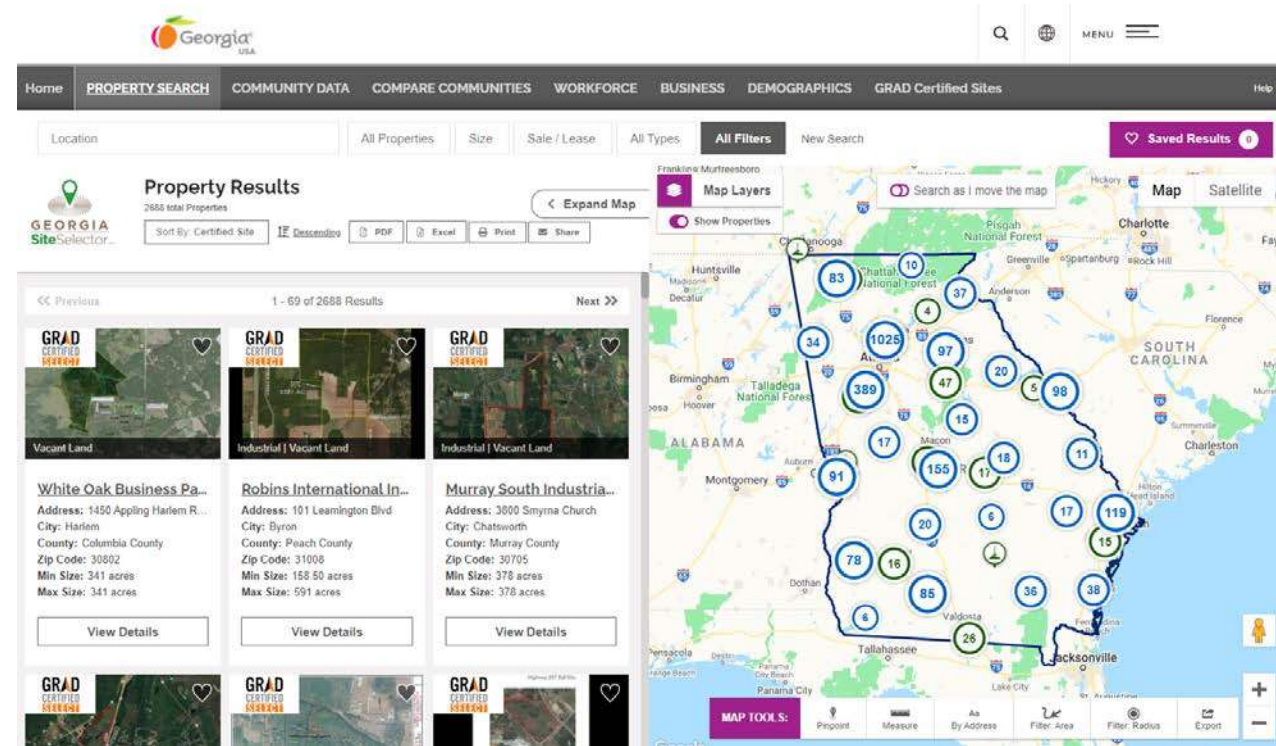
# GRAD Site Assessment

## GRAD Site Overview

# GRAD Site Overview

## Background

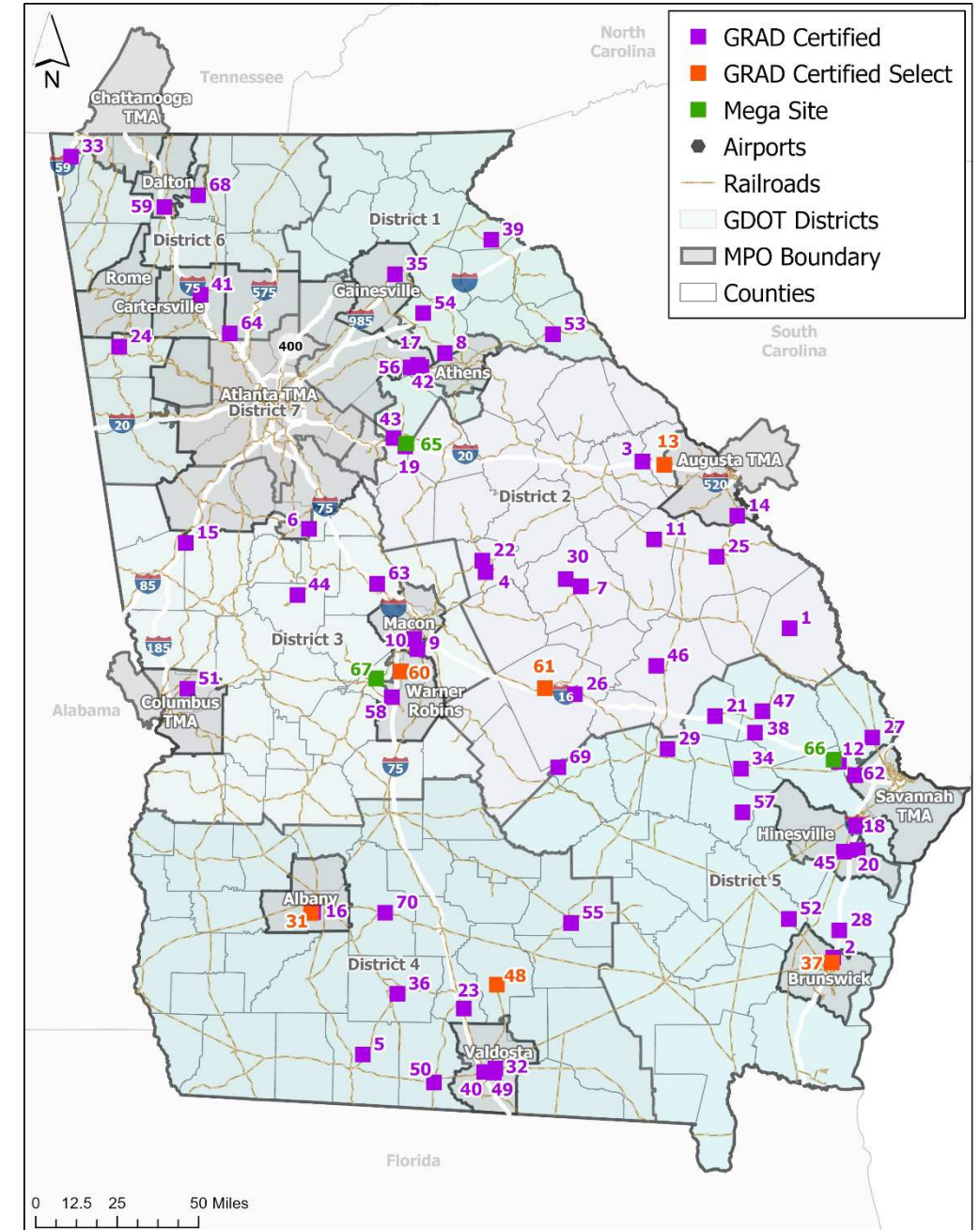
- Georgia Department of Economic Development (GDEcD) established the GRAD Program
- Promotes sites that are intended for industrial development and ready for fast-track construction
- GDEcD's current database and web map are available online - <https://www.georgia.org/site-selector>



# GRAD Site Overview

## Background

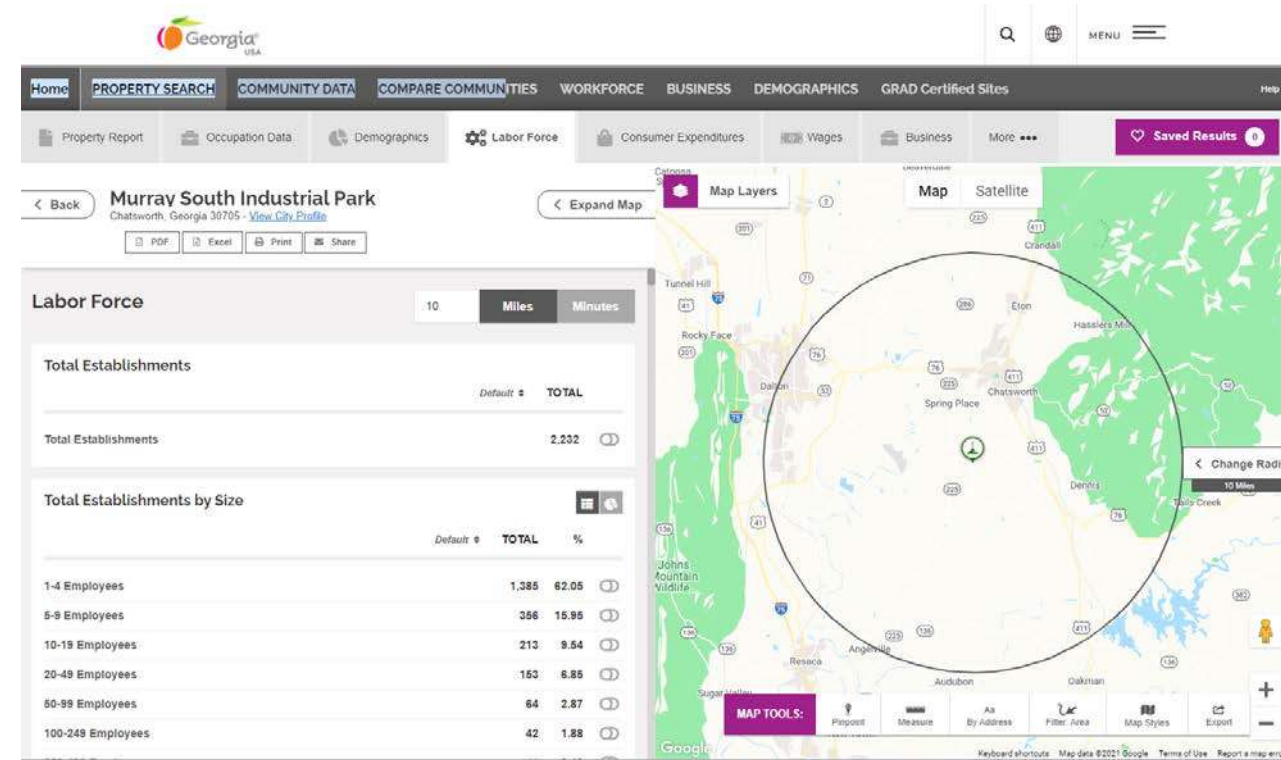
- 67 current GRAD sites
  - 61 Certified Sites
  - 6 Certified Select Sites
- 3 Mega Sites
- GRAD certification is valid for 36-months but can be renewed through an application process
- All current (as of March 2021) GRAD sites were assessed as part of this study



# GRAD Site Overview

## Background

- GDEcD database has over 140 data fields
  - Utilities
  - Zoning
  - Parking
  - Existing building characteristics
  - Other site specific details
- Some transportation data elements
  - Nearest airport
  - Distance to the Port of Savannah



# GRAD Site Overview

## GDOT Planning's Study Purpose

- Assist GDEcD with transportation related data that can be appended to the GRAD site database
- Develop methodology to assess and screen GRAD sites based on their transportation infrastructure characteristics
- Identify and initiate transportation investment opportunities for lower scoring GRAD sites

# GRAD Site Assessment

**Transportation Database**



# GRAD Site Transportation Database

## Transportation Database Elements

- GDOT District
- Congressional District
- GDOT Board Member
- Regional Commission
- MPO
- Adjacent Facility
  - Existing AADT
  - Total Lanes
  - Functional Classification
  - Existing/Future LOS (GSTDM/MPO)
  - State Freight Network
  - GRIP Classification
- Nearby STIP Projects
- Nearby TIP Projects
- Distance to:
  - Nearest 4-lane Arterial
  - Nearest Interstate
  - Nearest Intermodal Yard
  - Hartsfield Airport
  - Nearest Commercial /General Airport
  - Savannah Port (Savannah/  
Brunswick)
  - Inland Port (Appalachian/Bainbridge/  
NE Georgia)
  - Nearest Shortline Railroad

# GRAD Site Transportation Database

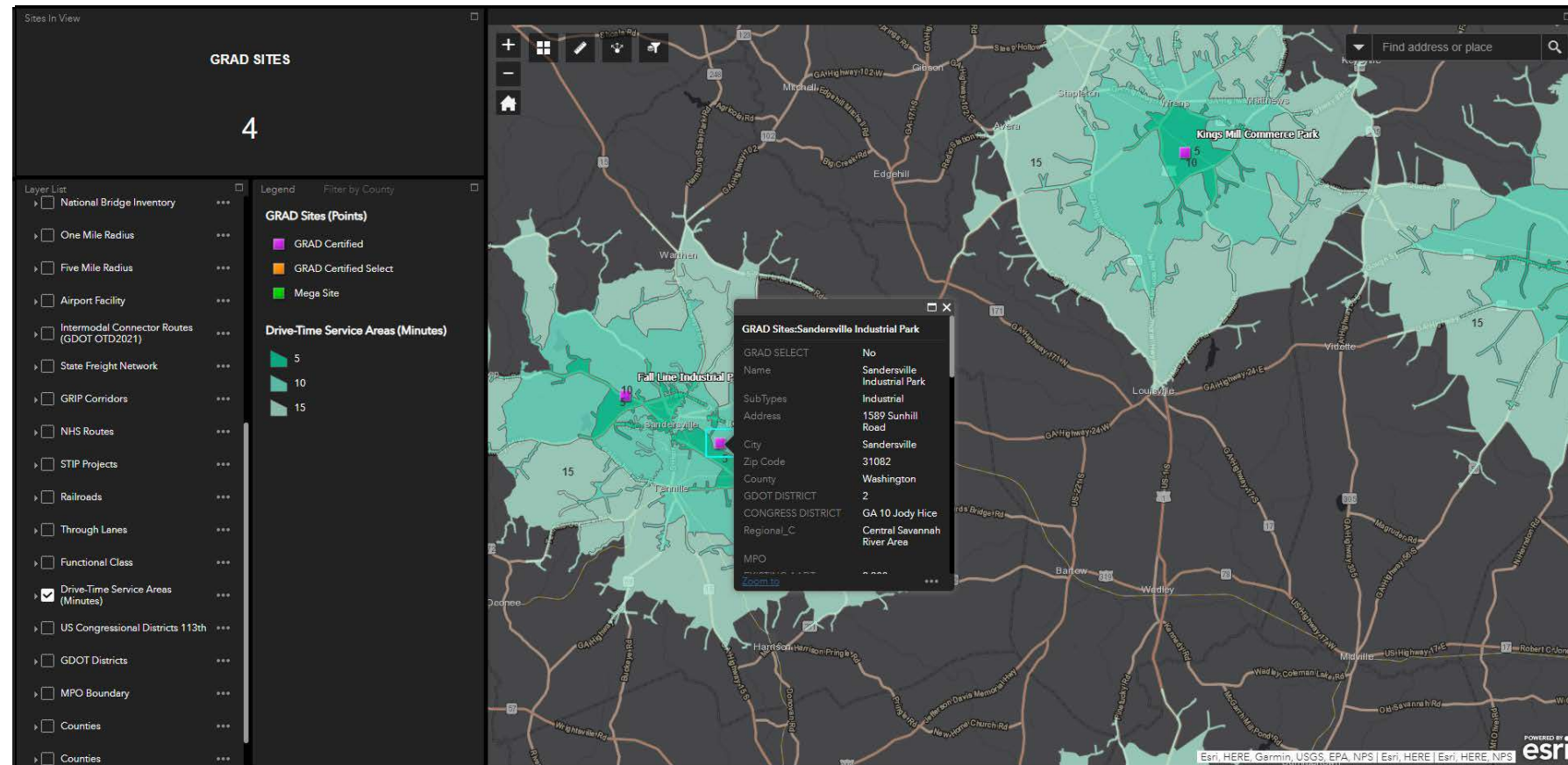
## Transportation Database Sources

- Georgia GIS Clearinghouse
- GDOT's Traffic Analysis and Data Application (TADA)
- GDOT's Roadway Characteristics Database
- National Bridge Inventory
- GDOT's Crash Database (Numetric)
- GDOT's Georgia Statewide Travel Demand Model (GSTDM)
- MPO Travel Demand Models
- GDOT's Statewide Transportation Improvement Program (STIP)
- MPO Transportation Improvement Programs (TIPs)

# GRAD Site Transportation Database

## Study Web Map

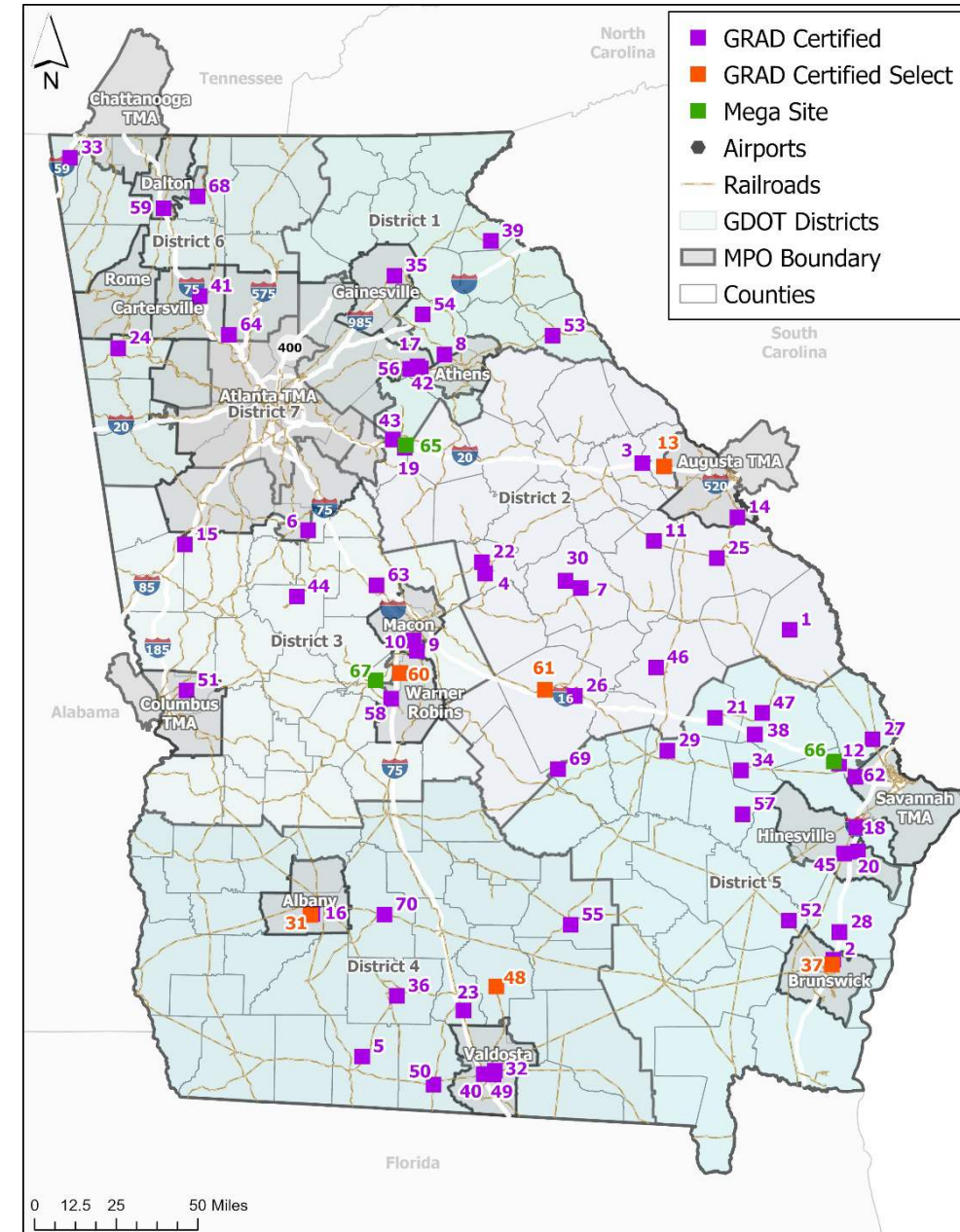
- Ability to turn on various transportation layers
- Quickly find a specific GRAD site
- View travel sheds (5, 10, and 15 minute)



# GRAD Site Transportation Database

## Statistics for Full Set of GRAD Sites

- 70 GRAD & Mega sites are located in 53 counties
- 31 sites (44%) are concentrated in 14 counties
- GRAD sites in every GDOT District except for D7
  - D1 has 9 (12.9%)
  - D2 has 16 (22.9%)
  - D3 has 10 (14.2%)
  - D4 has 12 (17.1%)
  - D5 has 17 (24.3%)
  - D6 has 6 (8.6%)
- 48 (69%) are rural while 22 (31%) are within MPO boundaries
- Sites range in size from 1 acre to 1,999 acres





# **GRAD Site Assessment**

## **Screening Process**

# GRAD Site Transportation Screening Tool

## Tool Overview



- Import Latest Database
- Dynamically adjust Data Ranges and Point Assignment
- Interactively adjust Pre-defined Weighting Factors
- Provide User Specific Weightings
- Rank GRAD sites based on their surrounding transportation infrastructure

# GRAD Site Transportation Screening Tool

## Transportation Database -> Evaluation Criteria

- Full Database contains nearly 50 fields
- 25 criteria initially pulled into screening tool
- Grouped criteria into 5 themes
- 14 fields ultimately used in the screening process

No.	Themes	Criteria	Data Type
1	Geography	City	Qualitative
		County	Qualitative
		GDOT District	Qualitative
		Congressional District	Qualitative
		Regional Commission	Qualitative
		MPO (Urban or Rural)	Qualitative
2	Adjacent Facility	Existing AADT	Quantitative
		Existing LOS	Qualitative
		Future LOS	Qualitative
		Number of Lanes	Qualitative
		Functional Classification	Qualitative
		GRIP or Freight Network?	Qualitative
3	Proximity	Distance to nearest 4-lane arterial	Quantitative
		Distance to nearest interstate	Quantitative
		Distance to nearest intermodal/rail yard	Quantitative
		# Daily Trips to HJAIA	Quantitative
		Distance to nearest commercial airport	Quantitative
		Distance to nearest general aviation airport	Quantitative
		# Daily Trips to Port of Savannah	Quantitative
		Distance to nearest Inland Port	Quantitative
4	Condition	Pavement	Quantitative
		Posted Bridge within 5-miles	Quantitative
		Crashes	Qualitative
5	Projects	GDOT STIP projects in proximity	Qualitative
		MPO TIP projects in proximity	Qualitative

# GRAD Site Transportation Screening Tool

## Screening Points

- Adjust data ranges and point assignment
- Default ranges allow for a reasonable distribution of the site characteristics

Screening Points						
No.	Themes	Criteria	Type	Value	Lookup Value	Scores
2	Adjacent Facility	Existing AADT	Quantitative	< 3000	0	25
				3000 - 9000	3,000	50
				9000 - 16000	9,000	75
				> 16000	16,000	100
		Existing LOS <i>From existing GSTDM or MPO model if applicable</i>	Qualitative	C+	C+	100
				D	D	66
				E	E	33
				F	F	0
		Future LOS <i>From future GSTDM or MPO model if applicable</i>	Qualitative	C+	C+	100
				D	D	66
E	E			33		
F	F			0		
Number of Lanes <i>How many total lanes are on the facility?</i>	Qualitative	2	2	50		
		4	4	100		
		6	6	0		
Functional Classification <i>What is the functional classification of the facility?</i>	Qualitative	Arterial	Arterial	100		
		Collector	Collector	50		
		Local	Local	25		
GRIP or Freight Network? <i>Is facility on either the GRIP or state freight network?</i>	Qualitative	No	No	0		
		Yes	Yes	100		
			0	0		
			0	0		
		Distance to nearest 4-lane arterial	Quantitative	< 1	0	100
				1 - 5	1	75
				5 - 10	5	50
				> 10	10	25



# GRAD Site Transportation Screening Tool

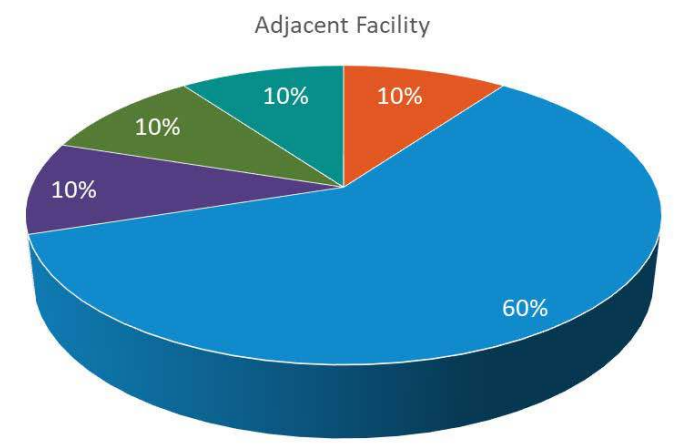
## Criteria Weightings

Adjust Theme Pre-Weightings

- 60%
- 10%
- 100%

- Select what criteria to include in the screening tool
- Adjust pre-defined weighting factors

CRITERIA WEIGHTING					Equal Weighting		Geography		Adjacent Facility		Proximity		Conditions		Projects		USER DEFINED		
					Scheme A		Scheme 1		Scheme 2		Scheme 3		Scheme 4		Scheme 5		Scheme C		
No.	Themes (Tier 1)	Criteria (Tier 2)	Include Criteria?	Tier 2 %	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	Tier 1	Tier 2	
1	Geography	City	N	0%															
		County	N	0%															
		GDOT District	N	0%															
		Congressional District	N	0%															
		Regional Commission	N	0%															
		MPO (Urban)	Y	100%															
2	Adjacent Facility	Existing AADT	N	0%															
		Existing LOS	Y	25%															
		Future LOS	Y	25%															
		Number of Lanes	Y	25%															
		Functional Classification	N	0%															
		GRIP or Freight Network?	Y	25%															
3	Proximity	Distance to nearest 4-lane arterial	Y	14%															
		Distance to nearest interstate	Y	14%															
		Distance to nearest intermodal/rail yard	Y	14%															
		# Daily Trips to HJIA	N	0%															
		Distance to nearest commercial airport	Y	14%															
		Distance to nearest general aviation airport	Y	14%															
		# Daily Trips to Port of Savannah	N	0%															
		Distance to nearest Inland Port	Y	14%															
		Distance to nearest Shortline	Y	14%															
4	Conditions	Pavement	N	0%															
		Posted Bridge w/i 5-miles	Y	100%	20%	0%	10%	10%	10%	10%	10%	10%	60%	60%	10%	10%	0%	0%	
		Crashes	N	0%															
5	Projects	GDOT STIP projects in proximity	Y	50%	20%	10%	10%	5%	10%	5%	10%	5%	10%	5%	60%	30%	0%	0%	
		MPO TIP projects in proximity	Y	50%															
<b>Total</b>					100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	0%	



Legend for pie chart:

- Geography
- Adjacent Facility
- Proximity
- Conditions
- Projects

# GRAD Site Transportation Screening Tool

## Scoring

- Provide user specific weightings
- Can be used in a workshop format
- Remove a particular site(s) from rankings

ID	GRAD Site	Area Type	County	GDOT District	GRAD Type	Pre-Loaded Scores by Weighting Scheme							Aggregate Sum
						Scheme A - Equal Weighting	Scheme 1 - Geography	Scheme 2 - Adjacent Facilities	Scheme 3 - Proximity	Scheme 4 - Condition	Scheme 5 - Projects	Scheme C - Live Weighting	
1	Screven County Industrial Park	Rural	Screven	2	No	70.7	85.4	72.9	62.1	72.9	60.4	0.0	424.3
2	Golden Isles Gateways Industrial Park	Urban	Glynn	5	No	41.1	20.5	39.3	54.5	70.5	20.5	0.0	246.4
3	Stone Industrial Park	Rural	McDuffie	2	No	63.2	81.6	62.9	58.4	81.6	31.6	0.0	379.3
4	Sibley Smith Industrial Park	Rural	Baldwin	2	No	74.3	87.1	87.1	60.4	74.6	62.1	0.0	445.7
5	Red Hills Business Park	Rural	Thomas	4	No	72.1	86.1	73.6	66.4	73.6	61.1	0.0	432.9
6	The Lakes at Green Valley	Urban	Spalding	3	No	43.9	22.0	53.2	50.5	47.0	47.0	0.0	263.6
7	Sandersville Industrial Park	Rural	Washington	2	No	62.5	81.3	62.5	56.3	81.3	31.3	0.0	375.0
8	Belle Springs	Rural	Jackson	1	No	71.4	85.7	73.2	64.3	73.2	60.7	0.0	428.6
9	Airport East Industrial Park	Urban	Bibb	3	No	45.2	22.6	51.6	56.5	72.6	22.6	0.0	271.0
10	Sofkee Industrial Park	Urban	Bibb	3	No	51.1	25.5	69.3	59.5	75.5	25.5	0.0	306.4
11	Kings Mill Commerce Park	Rural	Jefferson	2	No	63.9	82.0	63.2	60.5	82.0	32.0	0.0	383.6
12	Interstate Centre	Rural	Bryan	5	No	74.6	87.3	68.6	67.7	87.3	62.3	0.0	447.9
13	White Oak Business Park	Rural	Columbia	2	Yes	60.6	80.3	53.2	58.9	80.3	30.3	0.0	363.5
14	Augusta Corporate Park	Urban	Richmond	2	No	43.9	22.0	53.2	50.5	72.0	22.0	0.0	263.6
15	Meriwether Park	Rural	Meriwether	3	No	62.1	81.1	68.6	61.4	68.6	31.1	0.0	372.9
16	Pecan Grove Industrial Park	Urban	Dougherty	4	No	45.4	22.7	53.9	54.8	72.7	22.7	0.0	272.1
17	One University Parkway	Urban	Barrow	1	No	59.3	29.6	79.6	65.4	67.1	54.6	0.0	355.7
18	Belfast Commerce Park	Rural	Bryan	5	No	65.1	82.5	72.0	55.8	82.5	32.5	0.0	390.5
19	Stanton Springs	Rural	Newton	2	No	68.2	84.1	65.4	73.4	84.1	34.1	0.0	409.3

# GRAD Site Transportation Screening Tool

## Site Rankings

- Rank GRAD sites based on their surrounding transportation infrastructure
- Ability to focus ranking on just one weighting scheme

Rank	GRAD Site	Aggregate Weighting							
		ID	GRAD Type	Area Type	County	GDOT District	Aggregate Score	Aggregate Score	Moved Forward for Further Assessment
1	Citizens Business Park	36	No	Rural	Colquitt	4	501.4	501	
2	Bryan County Mega Site	66	No- Mega Site	Rural	Bryan	5	477.9	478	
3	Worth Industrial Complex	70	No	Rural	Worth	4	471.4	471	
4	Peach County Mega Site	67	No- Mega Site	Rural	Peach	3	460.7	461	
5	Cook County Industrial Park	23	No	Rural	Cook	4	456.4	456	
6	Interstate Centre	12	No	Rural	Bryan	5	447.9	448	GDEcD
6	Savannah Gateway Industrial Hub	27	No	Rural	Effingham	5	447.9	448	
6	Gateway Regional Industrial Park	47	No	Rural	Bulloch	5	447.9	448	
9	Sibley Smith Industrial Park	4	No	Rural	Baldwin	2	445.7	446	
10	Tidewaters Industrial Complex	28	No	Rural	McIntosh	5	439.3	439	
11	Brooks County Industrial Park	50	No	Rural	Brooks	4	435.0	435	
12	Red Hills Business Park	5	No	Rural	Thomas	4	432.9	433	
12	Georgia Hwy 257 Rail Served Site	61	Yes	Rural	Laurens	2	432.9	433	GDEcD
14	Belle Springs	8	No	Rural	Jackson	1	428.6	429	
14	Milledgeville Baldwin County Industrial Park	22	No	Rural	Baldwin	2	428.6	429	
16	Glennville Industrial Park	57	No	Rural	Tattnall	5	426.4	426	
17	Screven County Industrial Park	1	No	Rural	Screven	2	424.3	424	
18	Metter I-16 Industrial Park	21	No	Rural	Candler	5	422.1	422	
18	Cedartown North Business Park Phase 2	24	No	Rural	Polk	6	422.1	422	
20	Trenton Dade Industrial Park	33	No	Rural	Dade	6	413.6	414	
21	Stanton Springs	19	No	Rural	Newton	2	409.3	409	
21	Central Georgia Business and Technology Park	44	No	Rural	Upson	3	409.3	409	
23	Fall Line Industrial Park	69	No	Rural	Dodge	2	405.0	405	
24	Jefferson Distribution Center	54	No	Rural	Jackson	1	400.7	401	
24	Meridian 75 Logistics Center	63	No	Rural	Monroe	3	400.7	401	

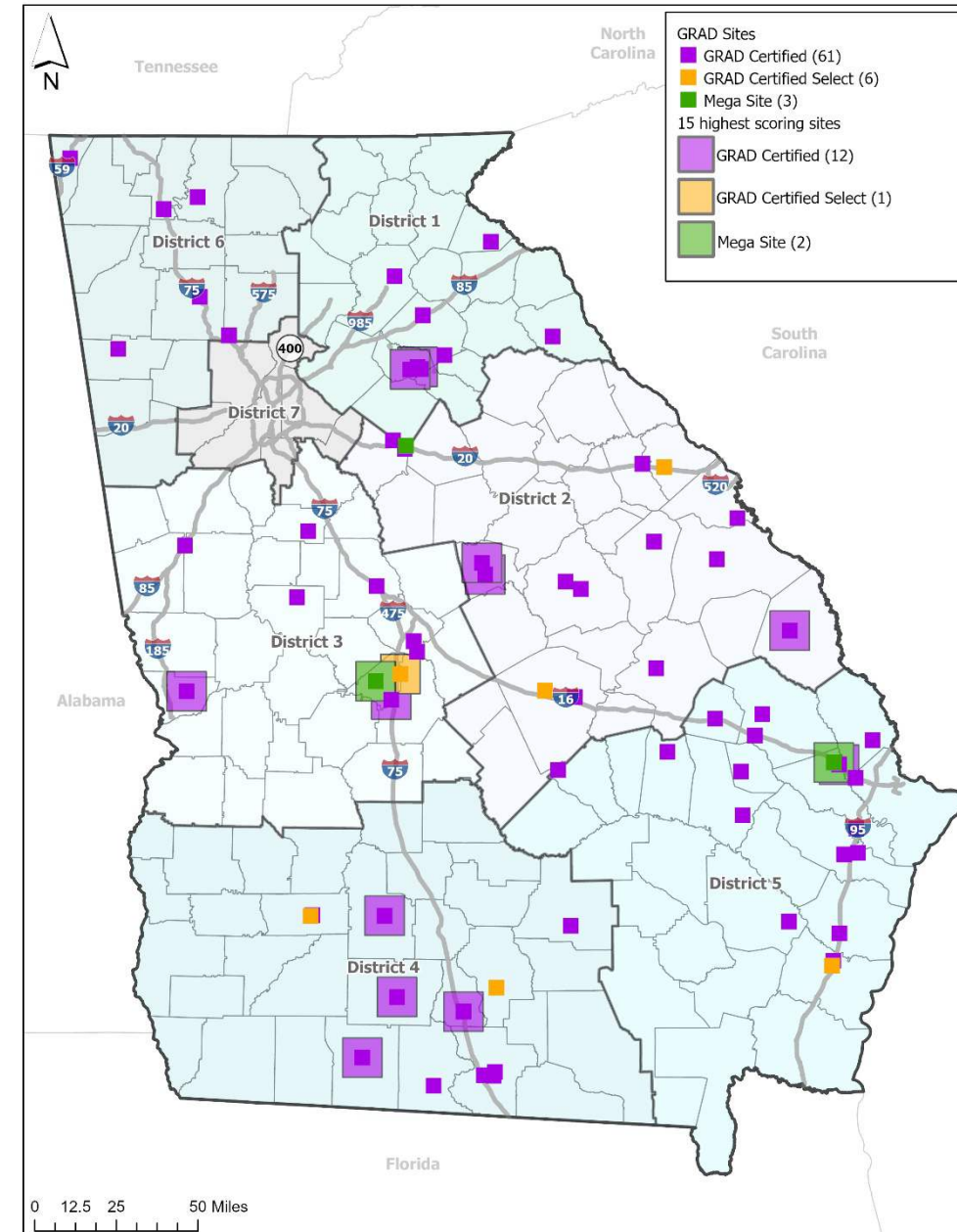
# GRAD Site Assessment

## Screening Results

# Screening Results

## Highest Scoring GRAD Sites

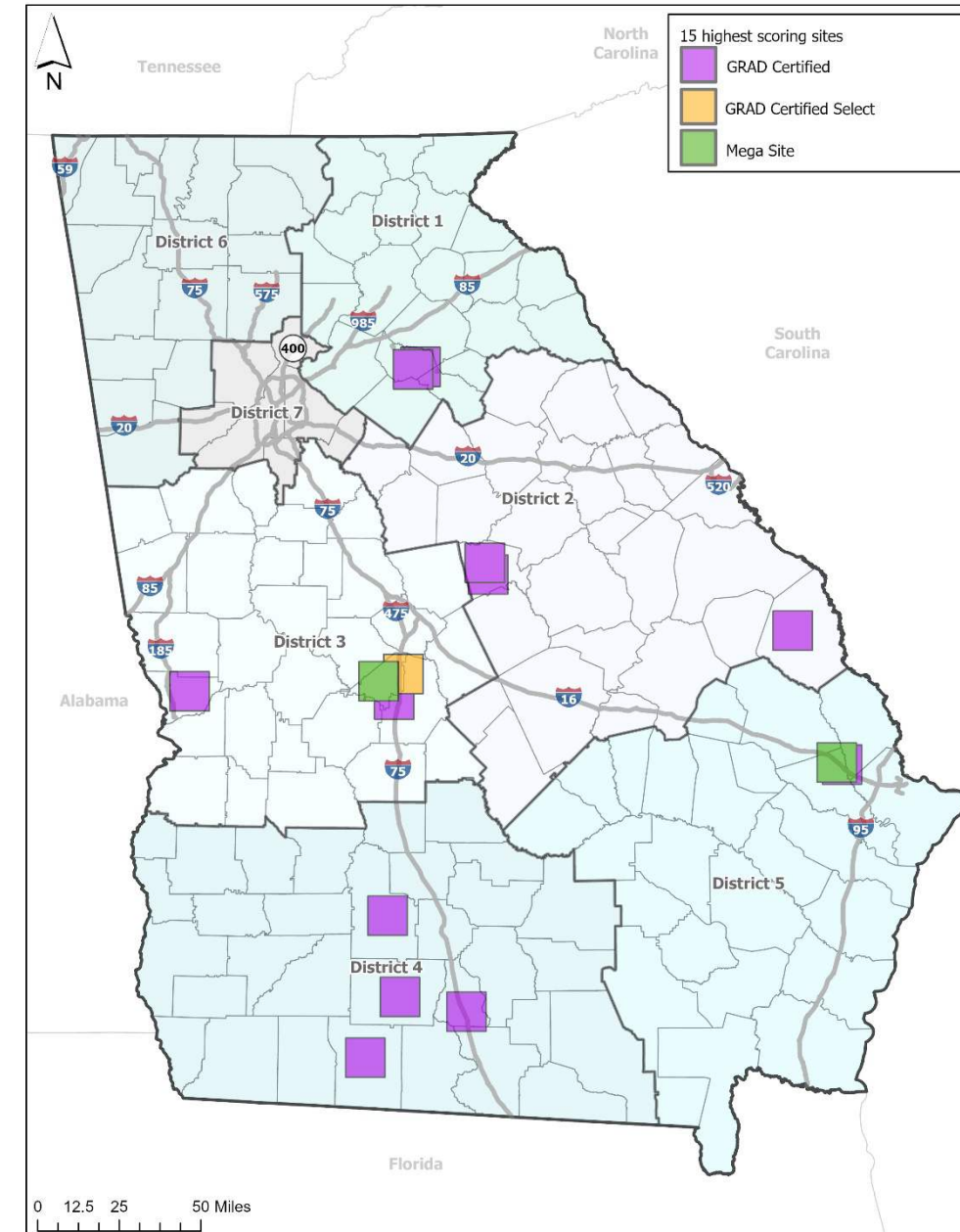
- Citizens Business Park
- Bryan County Mega Site
- Worth Industrial Complex
- Red Hills Business Park
- Cook County Industrial Park
- Peach County Mega Site
- Interstate Centre
- Milledgeville Baldwin County Industrial Park
- Screven County Industrial Park
- Sibley Smith Industrial Park
  
- Houston County I-75 Site
- Robins International Industrial Park
- One University Parkway
- Park 53 Industrial & Technology Complex
- Muscogee Technology Park



# Screening Results

## Statistics for Highest Scoring GRAD Sites

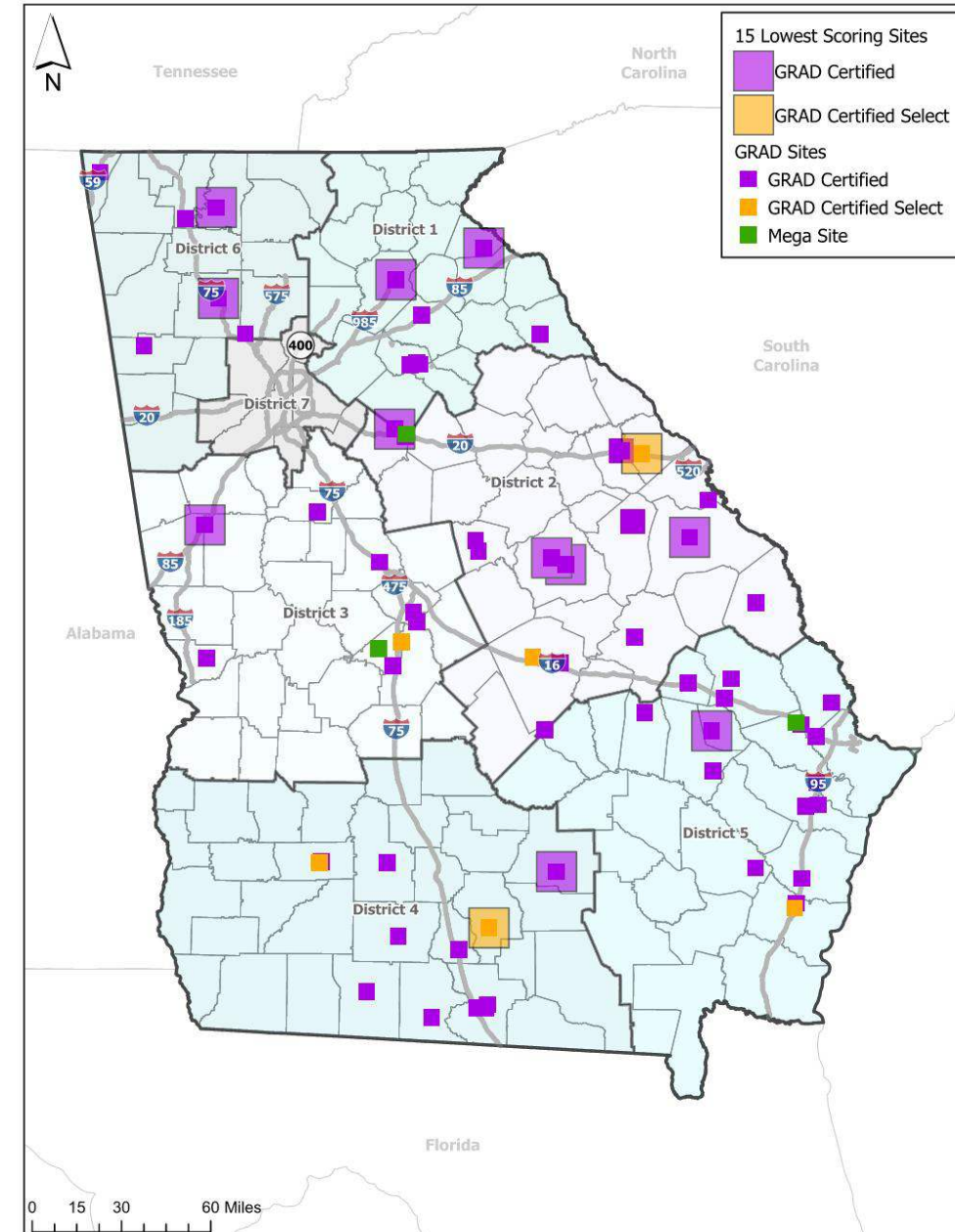
- 13 along a road that is expected to maintain LOS C or better through 2050
- 10 along a 4-lane facility
- 14 along an arterial
- 6 are <10-mi from an interstate
- 5 allow for 5+ daily trips between HJAIA
- 3 allow for 5+ daily trips to Port of Savannah
- 8 are <25-mi from a commercial airport
- 10 are <10-mi of a general aviation airport
- 8 have <1 weight restricted (posted) bridges within 5-mi
- 14 with a STIP/TIP project programmed within 5-mi
- 6 within a 10-min drive from another GRAD site



# Screening Results

## Lower Scoring GRAD Sites

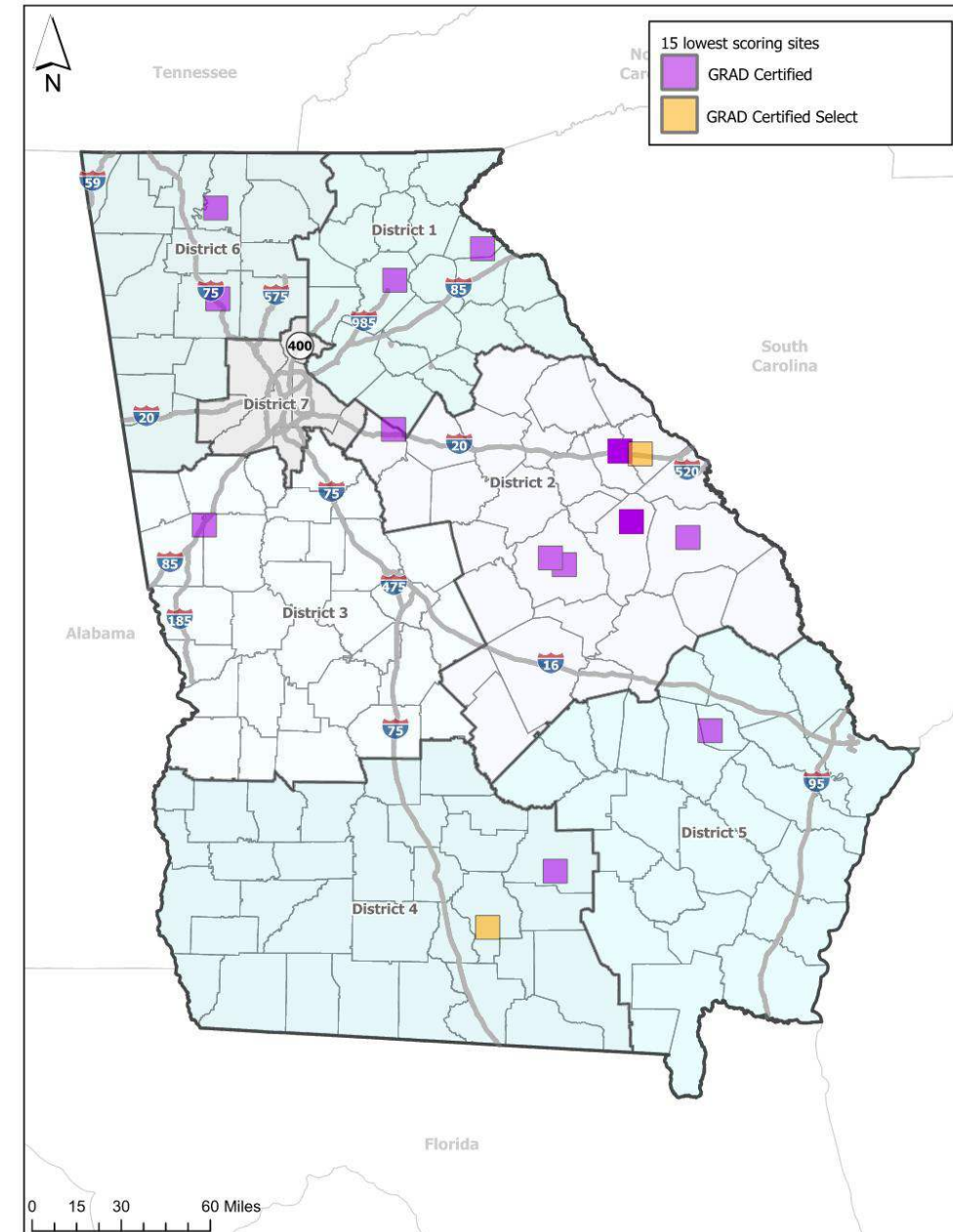
- Burke Business Park
- Central Georgia Business and Technology Park
- Georgia Historic Heartland Megasite
- Murray South Industrial Park
- White Oak Business Park
- Sandersville Industrial Park
- Belle Springs
- Berrien Business Park
- Meriwether Park
- Fall Line Industrial Park West Site
- Hayestone Brady Industrial Park
- Claxton-Evans County Industrial Park West
- Satilla Park
  
- Gateway Industrial Centre
- Highland 75



# Screening Results

## Statistics for Lower Scoring GRAD Sites

- 5 are within 10-min drive time to another GRAD site
  - Provide an opportunity to make a transportation investment that benefits multiple sites
- 3 connect to a 2-lane road that is expected to operate LOS D or worse by 2050
- 3 connect to a local road
- 1 connects to a GRIP/State Freight Route
- 2 are >5-mi from a 4-lane facility
- 5 are >20-mi from an interstate
- 5 are >100-mi from a rail/intermodal yard
- 5 have 3+ posted bridges within 5-mi
- 1 has a programmed project within 5-mi





# GRAD Site Assessment

## Engineering Assessment

# Engineering Assessment

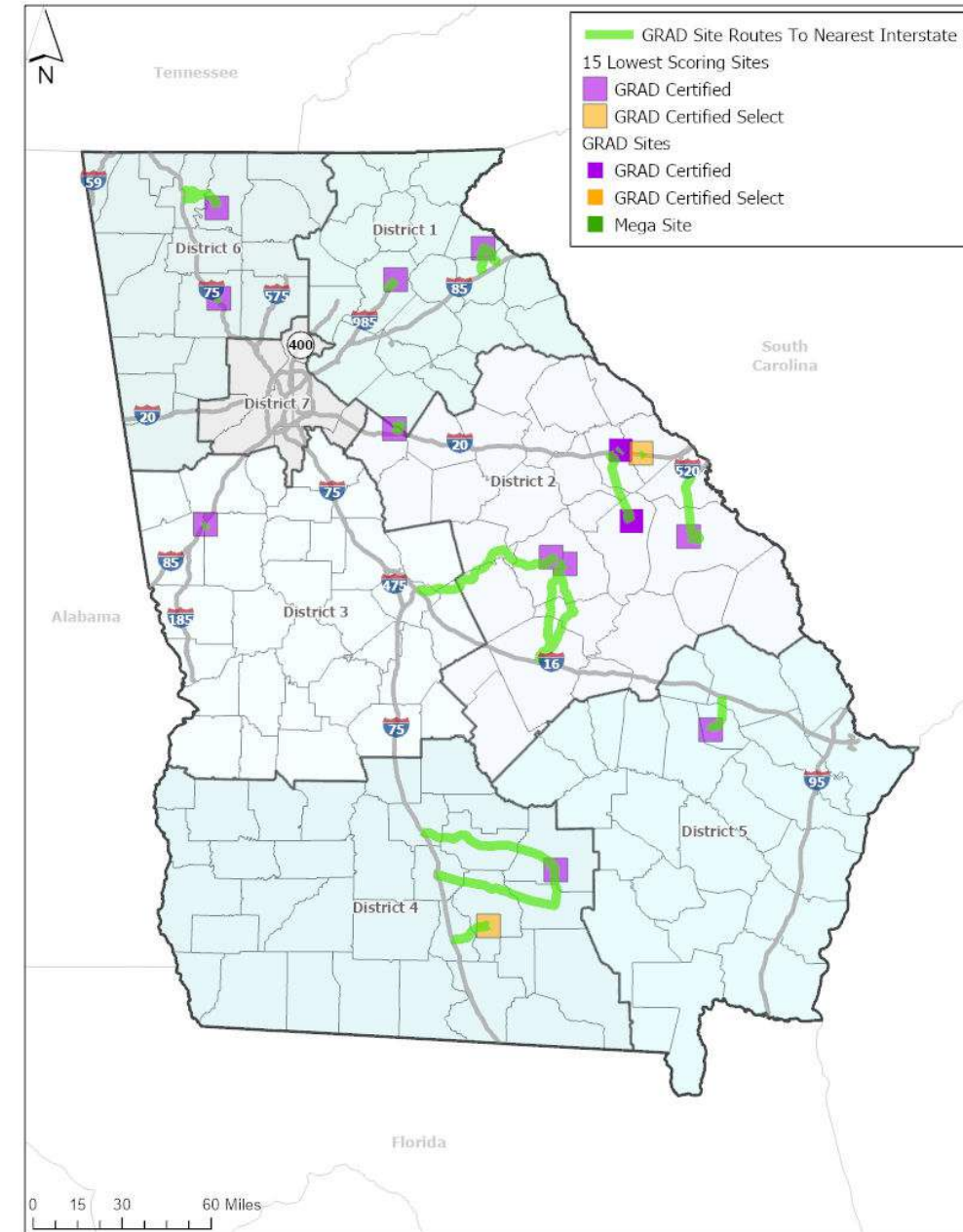
## Transportation Infrastructure Elements

- Typical Section
  - Identify narrow lanes <11'
  - Lack of paved shoulders
- Bridge Widening or Replacement
- Pavement Condition
  - Poor pavement ratings
- Bypass Considerations
  - Number of downtowns / historic areas
  - Number of school zones
- Rail
  - At-Grade Railroad Crossings
  - Rail crossing equipment
  - Rail safety
- Safety
  - Crash rates
- Geometric
  - Substandard horizontal curves
  - Excessive grades
  - Inadequate turning radii
  - Intersection sight distance issues
  - Vertical Restrictions
  - Skewed intersection

# Engineering Assessment

## Types of Improvement

- Additional capacity
- Shoulder improvements
- Bridge widening or replacement
- Repaving
- Rail crossing upgrades
- Improved geometrics



# Potential Projects for the Low Scoring GRAD Sites

GRAD Site	GDOT District	Route	Potential Improvement
Gateway Industrial Centre	1	Route 1	1.8 miles of road widening, and the addition of two roundabouts surrounding the site
Highland 75	6	Route 1	1.3 miles of road widening, with the addition of one roundabout along the route
Burke Business Park	2	Route 1	1.2 miles of resurfacing along a significant route through the town of Waynesboro
		Route 2	1.1 miles of resurfacing
Georgia Historic Heartland Megasite	2	Route 1	2.7 miles of improved 2-lane road with paved shoulders
		Route 2	0.5 mile extension of Hollingsworth Rd, with significant RR crossing improvements
Murray South Industrial Park	6	Route 1	No identified improvements
		Route 2	No identified improvements
White Oak Business Park	2	Route 1	0.5 mile of roadway widening along the route
Sandersville Industrial Park	2	Route 1	No identified improvements
		Route 2	No identified improvements
Berrien Business Park	4	Route 1	13.9 miles of various roadway improvements
		Route 2	11.9 miles of various roadway widening, primarily along Adel Hwy
Meriwether Park	3	Route 1	0.6 miles of widening and resurfacing
Fall Line Industrial Park West Site	2	Route 1	No identified improvements
Haystone Brady Industrial Park	1	Route 1	No identified improvements
		Route 2	7.1 miles of roadway improvements includes adding a 4-ft paved shoulder
Claxton-Evans County Industrial Park West	5	Route 1	1.0 mile of various widening and resurfacing
Satilla Park	4	Route 1	No identified improvements
		Route 2	0.9 miles of resurfacing and widening alternate entrance road
Stone Industrial Park	2	Route 1	0.6 miles of roadway widening and resurfacing
Kings Mill Commerce Park	2	Route 1	0.6 miles of widening and resurfacing
		Route 2	0.4 miles of widening and resurfacing

# Potential Projects for the Low Scoring GRAD Sites

GRAD Site	GDOT District	Route	Potential Improvement
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Georgia Historic Heartland Megasite	2	Route 1	2.7 miles of improved 2-lane road with paved shoulders
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Murray South Industrial Park	6	Route 1	No identified improvements
		Route 2	No identified improvements
White Oak Business Park	2	<b>Route 1</b>	<b>0.5 mile of roadway widening along the route</b>
Sandersville Industrial Park	2	Route 1	No identified improvements
		Route 2	No identified improvements
Berrien Business Park	4	Route 1	13.9 miles of various roadway improvements
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Meriwether Park	3	Route 1	0.6 miles of widening and resurfacing
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Haystone Brady Industrial Park	1	Route 1	No identified improvements
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		<b>Route 2</b>	<b>0.4 miles of widening and resurfacing</b>

# Engineering Assessment

## Project Justification Report

- Initiating Document of GDOT's Plan Development Process
- Investment Opportunity Origination
- Roadway Description, Type, Location
- Land Use in area
- Goals and Objectives the Investment Opportunity is expected to achieve
- Projects in the area
- AADT and LOS (Current and Future)
- Crash Data and Heat Maps
- Any additional information that helps document the investment opportunity
- Does not include the solution/type or funding



# **GRAD Site Assessment**

**Next Steps**

## Next Steps

- Coordination with Georgia Department of Economic Development
  - Hand-off the transportation infrastructure database
  - Monitor as new GRAD sites are added
- Database Upkeep
  - Maintain Database as new data becomes available
    - Varies by data field type and frequency
  - Adding GRAD Sites to the Database



## Next Steps

- Reverse site selection
  - Assess GRAD sites' competitiveness to attract companies in target industries
    - Site location
    - Transportation attributes
    - Position in the supply chain

## Next Steps

- GDOT Project Development Process
  - Continue the development of Project Justification Statements
  - Initiate Concept Reports / Scoping Studies
  - Investigate funding sources
  - Continue investigating investment opportunities for lower scoring GRAD Sites



## Contact Information

Georgia Department of Transportation

Office of Planning

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