

Transportation Issues and Opportunities

Issues

Through trips contribute significantly to peak hour congestion

Key intersection operations constrain corridor capacity

Limited roadway connectivity requires travel through major intersections

Effective local transit connections could serve emerging activity areas and connect to regional transit in Johns Creek

Transit mixed with vehicular traffic has limited travel time advantage over automobiles

Neighborhoods are not well connected to schools, parks and community facilities with sidewalks and bicycle facilities

Longer distance bicycle and trail routes are needed to access parks and provide recreational opportunities

Enhancing transportation safety for all travel modes is a priority

Opportunities

Maximize corridor efficiency through improvement of congested intersections

Add road connectivity to increase options beyond use of congested corridors

Consider use of undeveloped land and/or easements to add pedestrian and bicycle connectivity

Maximize use of technology to assist in traffic operations improvements

Increase emphasis on transit through application and expansion of planned transit improvements

Plan and build multimodal connections in potentially high pedestrian activity areas



Transportation Policies and Strategies

Provide roadway capacity along a few key corridors while preserving two-lane residential character of other roads in Johns Creek

- Expand roadway capacity along high demand corridors
- Improve two-lane roads for effective safety and operations
- Preserve current transportation investment through effective maintenance of transportation facilities
- Support neighborhood efforts to manage speed within residential communities

Facilitate movement of traffic along key corridors to minimize congestion

- Provide necessary operation at key intersections to prevent bottlenecks from limiting overall capacity along roadways
- Increase internal connectivity to reduce need for travel on main roads in congested areas
- Develop traffic circulation and loading area plans for all primary and secondary schools to reduce school related congestion
- Continue development and application of alternative intersection treatments

Apply innovative approaches and technologies to improve mobility

- Utilize access management techniques to increase mobility, safety and interconnectivity
- Promote state-of-the-art signal system technology
- Continue development and application of ITS and incident management technology
- Promote travel demand management (TDM) strategies to reduce trips
- Encourage increased mixed use development/redevelopment
- Facilitate private funding partnerships for improvements



Transportation Policies and Strategies

Provide complete sidewalk and multi-use trail network to allow pedestrian and bicycle travel throughout Johns Creek

- Implement sidewalk and multi-use trail improvements to provide pedestrian and bicycle access within ½ mile of all public schools, libraries, parks and Chattahoochee River public use areas
- Identify and fill gaps in sidewalk network to provide sidewalk along all arterial and collector roads
- Create multi-use trail network based on adopted Multi-Use Trail Plan to include connections to adjacent jurisdictions' facilities and the Chattahoochee River
- Create pedestrian and bicycle connections between residential areas and commercial areas
- Provide pedestrian facilities in activity centers to allow people to park once in these areas
- Facilitate private funding partnerships for neighborhood sidewalk connections
- Establish pedestrian and bicycle friendly city-wide policies and standards

Provide effective transit routes for Johns Creek commuter travel to the Atlanta core and surrounding communities

- Support GRTA and MARTA efforts related to express transit service
- Support regional bus rapid transit (BRT) initiatives to connect Johns Creek to Alpharetta and Duluth along State Bridge Road



Sidewalk Improvements

Highest priority for improvements:

- Collectors/arterials within ½ mile of schools, libraries, and parks
- Local roads providing access between schools/libraries/parks and collectors/arterials
- Connections between schools and neighborhoods (Shakerag ES/River Trail MS, Abbotts Hill ES, Findley Oaks ES, Taylor Rd MS/Chattahoochee HS, State Bridge Crossing ES/N Fulton HS)

Completion as part of short term committed roadway project:

- McGinnis Ferry Rd east of Sargent Rd

Completion as part of future roadway project:

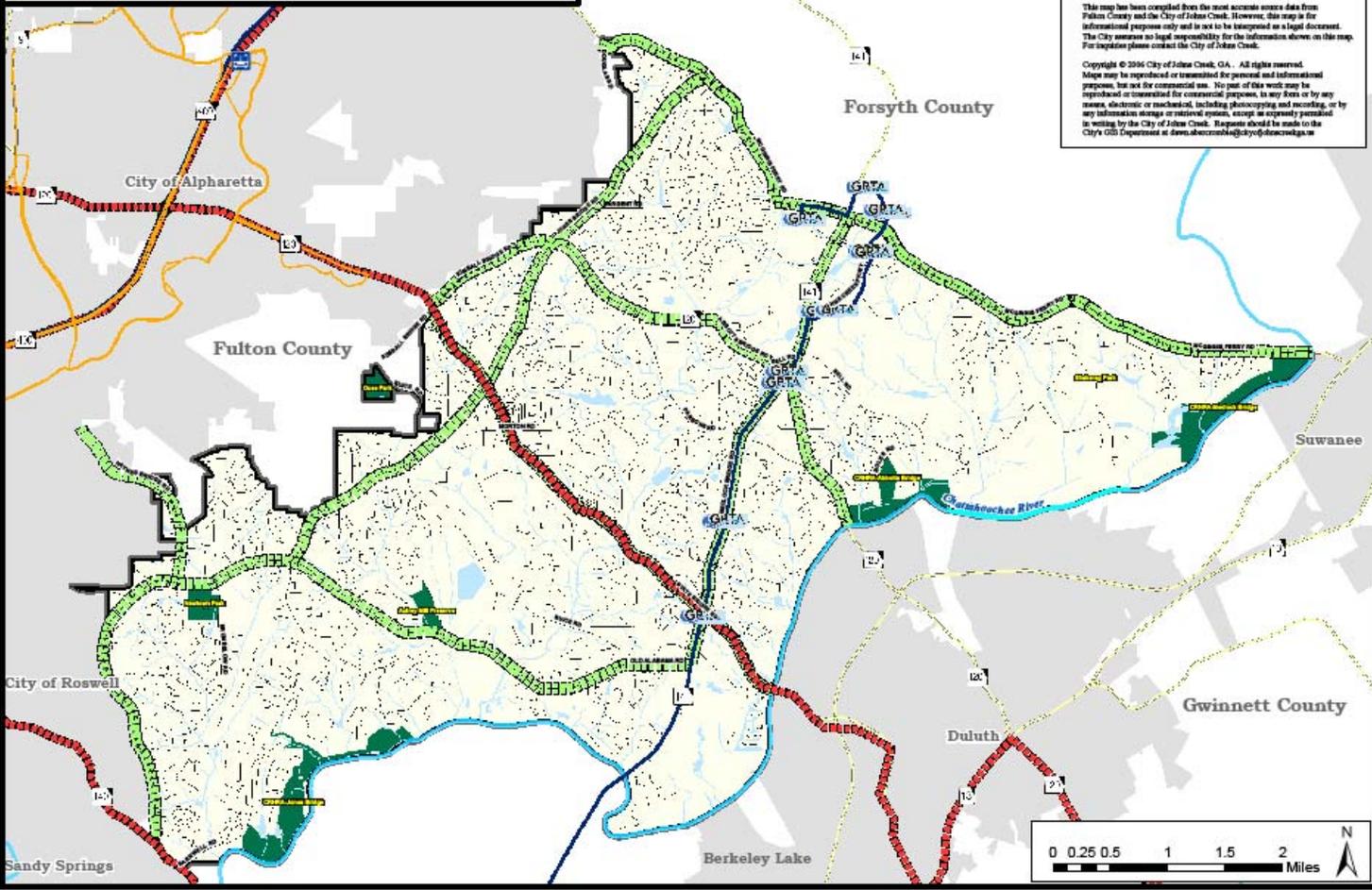
- Portions of McGinnis Ferry Rd, Jones Bridge Rd, Old Alabama Rd, Medlock Bridge Rd, Parsons Rd, Rogers Bridge Rd, new connector roadways

Long term sidewalk improvements:

- Segments of collectors/arterials not included above (to provide sidewalk on at least one side of roadway on all collectors/arterials)
- Inter-neighborhood connections



Existing & Future Transit Facilities



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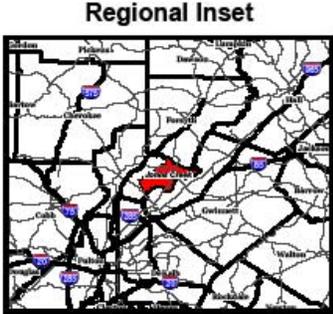


Figure T-23

Legend

Transit Facilities

- Park-n-Ride Lot
- GRTA Xpress Bus Stop
- 2007 MARTA Bus Routes
- Existing GRTA Xpress Route
- GRTA Planned Local Bus*
- GRTA Planned BRT*

Johns Creek Road Network

- Roadway Feature

Other Layers

- Other State Highway / U.S. Highway
- Chattahoochee River
- Parks
- Lakes / Ponds / Streams
- Johns Creek City Limits
- Other City Limits
- County Boundary

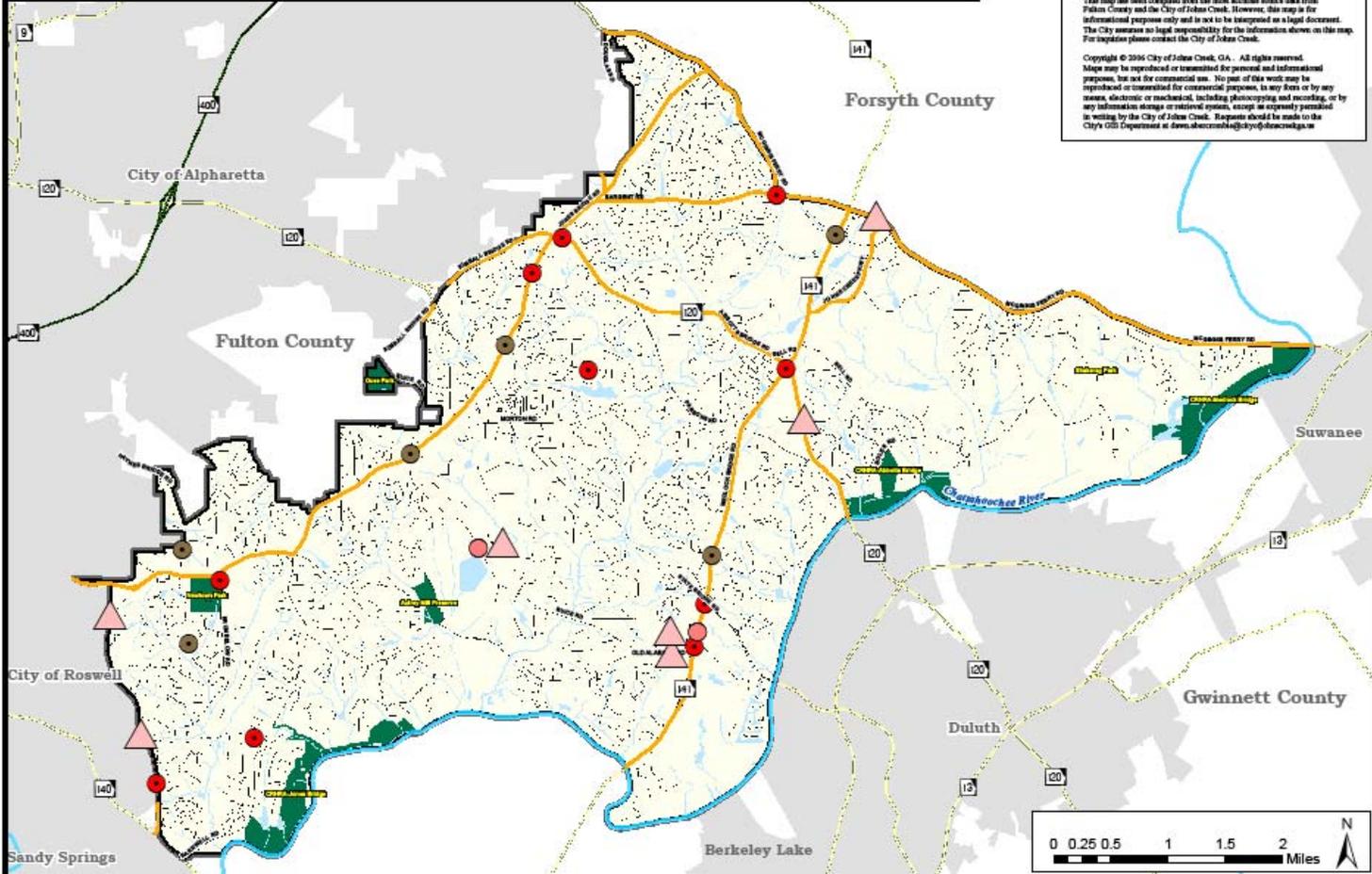
*Note
Planned local bus routes and planned BRT are mid to long range plans from the Regional Transit Action Plan (RTAP) by GRTA and the Transit Planning Board (TPB)

Source: GDOT, City of Johns Creek, GRTA, TPB, RTAP
Jacobs Carter Burgees

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Corridors with 2006 Crash Rates Above Statewide Average



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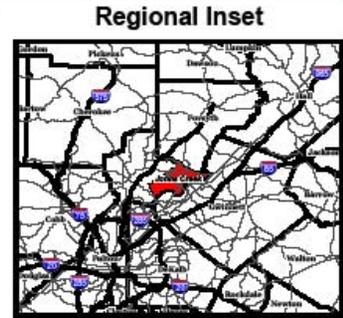


Figure T-22

Legend

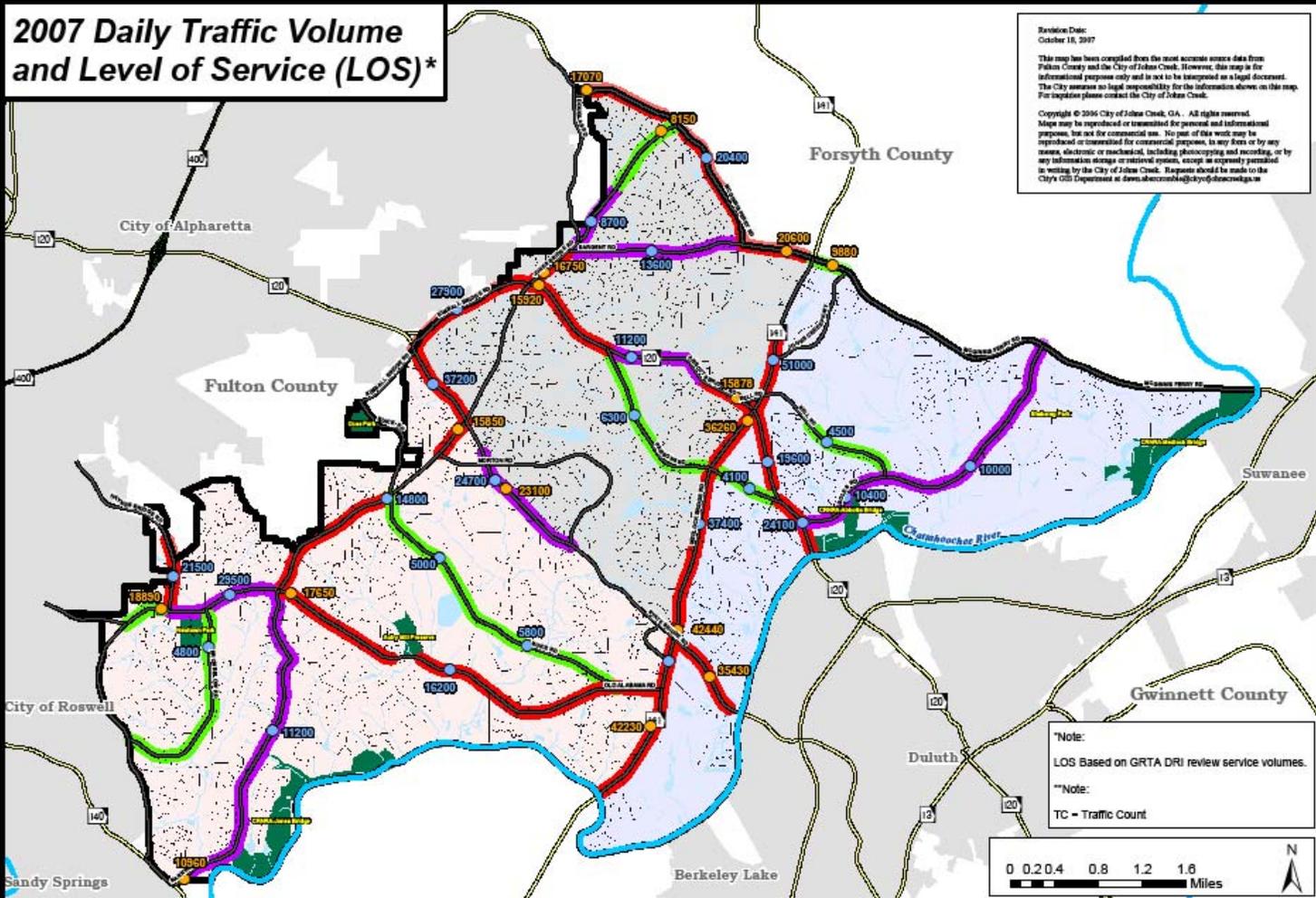
- Fatal Crash Location (2003-2006)**
 - Vehicle Crash with Fatality
 - Crash Involving Bicycle Fatality
- Bicycle/Pedestrian Crash Locations (2003-2006)**
 - Crash Involving Bicycle
 - Crash Involving Pedestrian
- High Crash Corridors**
 - 2006 Crash Rate (Per 100 Million Vehicle Miles Traveled) Above 2006 Statewide Average By Functional Classification*
- *Note
- State Bridge Rd (Principal Arterial) is under 2006 statewide crash average.
- Other Layers**
 - Local Road (Crash Rate Not Calculated)
 - Other State Highway / U.S. Highway
 - Chattahoochee River
 - Parks
 - Lakes / Ponds / Streams
 - Johns Creek City Limits
 - Other City Limits
 - County Boundary

Source: GDOT Crash Database (2003-2006), Fulton County, and Jacobs Carter Burgess

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2007 Daily Traffic Volume and Level of Service (LOS)*



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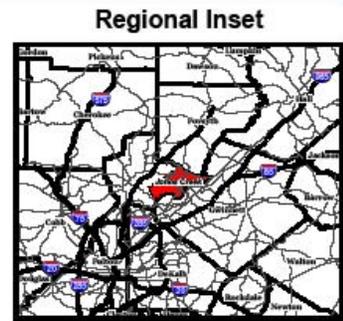


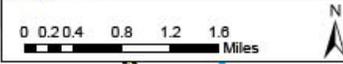
Figure 1

Legend

- 2007 Daily Traffic Volume and Level of Service (LOS)**
- Dec 2007 Daily Traffic Volume Count Location
 - 2008 GDOT TC Station*
 - 00000 2008 GDOT TC (Vehicles Per Day)**
 - 00000 Dec 2007 Consultant-Collected Daily Traffic Volume by Location
- Approximate Roadway Area Affecting TC Station with LOS**
- LOS A-C
 - LOS D
 - LOS E-F
- Johns Creek Road Network**
- Collector and Above Roadways
 - Local Streets
- Other Layers**
- Other State Highway / U.S. Highway
 - Chattahoochee River
 - Planning Area 1
 - Planning Area 2
 - Planning Area 3
 - Parks
 - Lakes / Ponds / Streams
 - Johns Creek City Limits
 - Other City Limits
 - County Boundary

*Note:
LOS Based on GRTA DRI review service volumes.

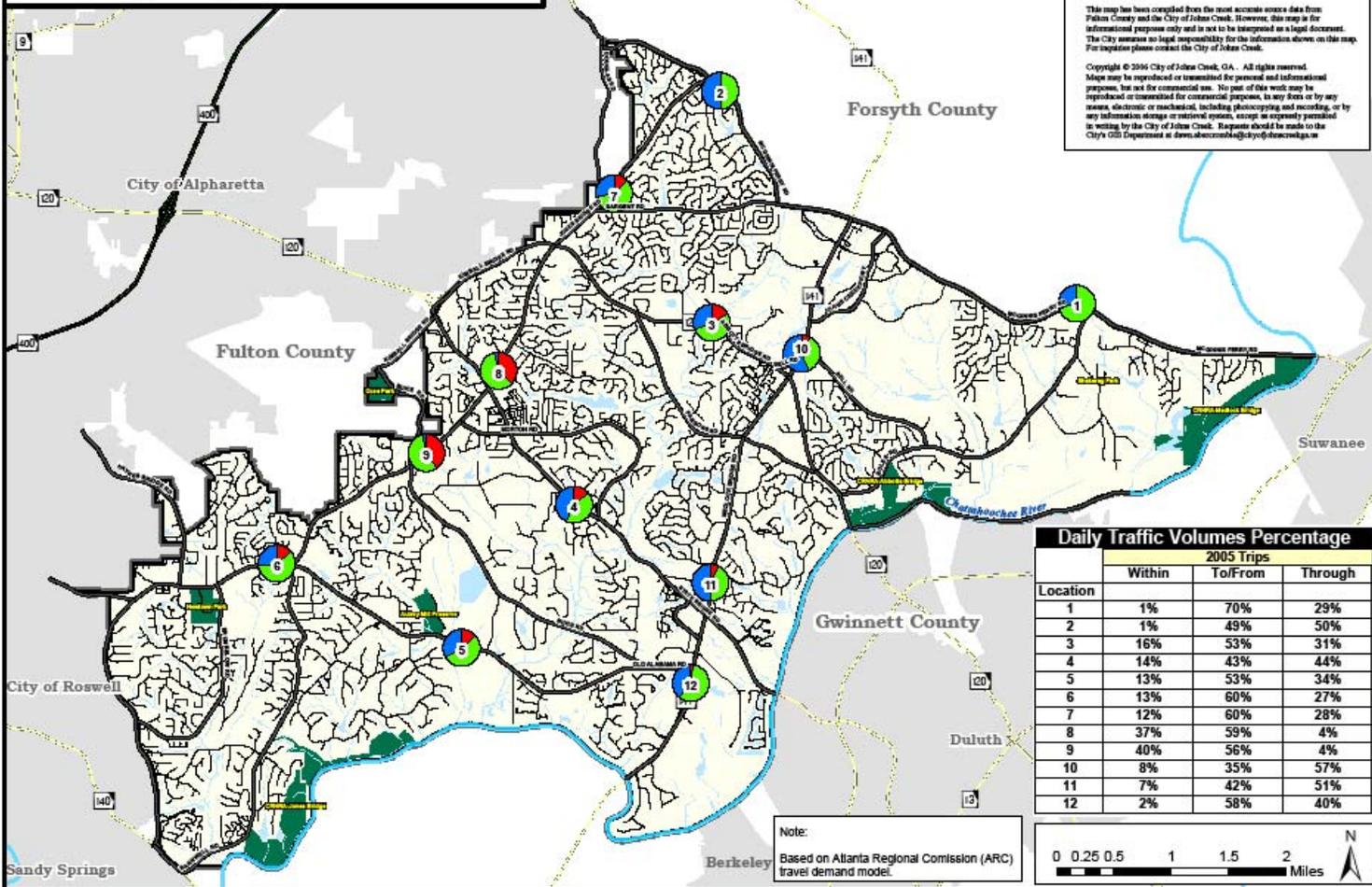
**Note:
TC = Traffic Count



Source: City of Johns Creek, GRTA, and Jacobs Carier Bargees
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2005 Trip Origins & Destinations



Regional Inset

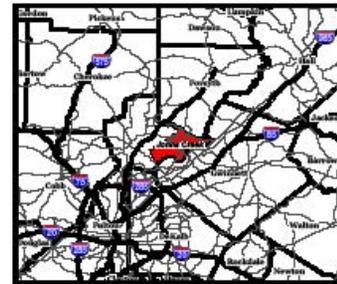


Figure T-15

Legend

Origins & Destinations (2005)



- Trips Within Johns Creek
- Trips To/From Johns Creek
- Trips Through Johns Creek

Johns Creek Road Network

- Collector and Above Roadways
- Local Streets

Other Layers

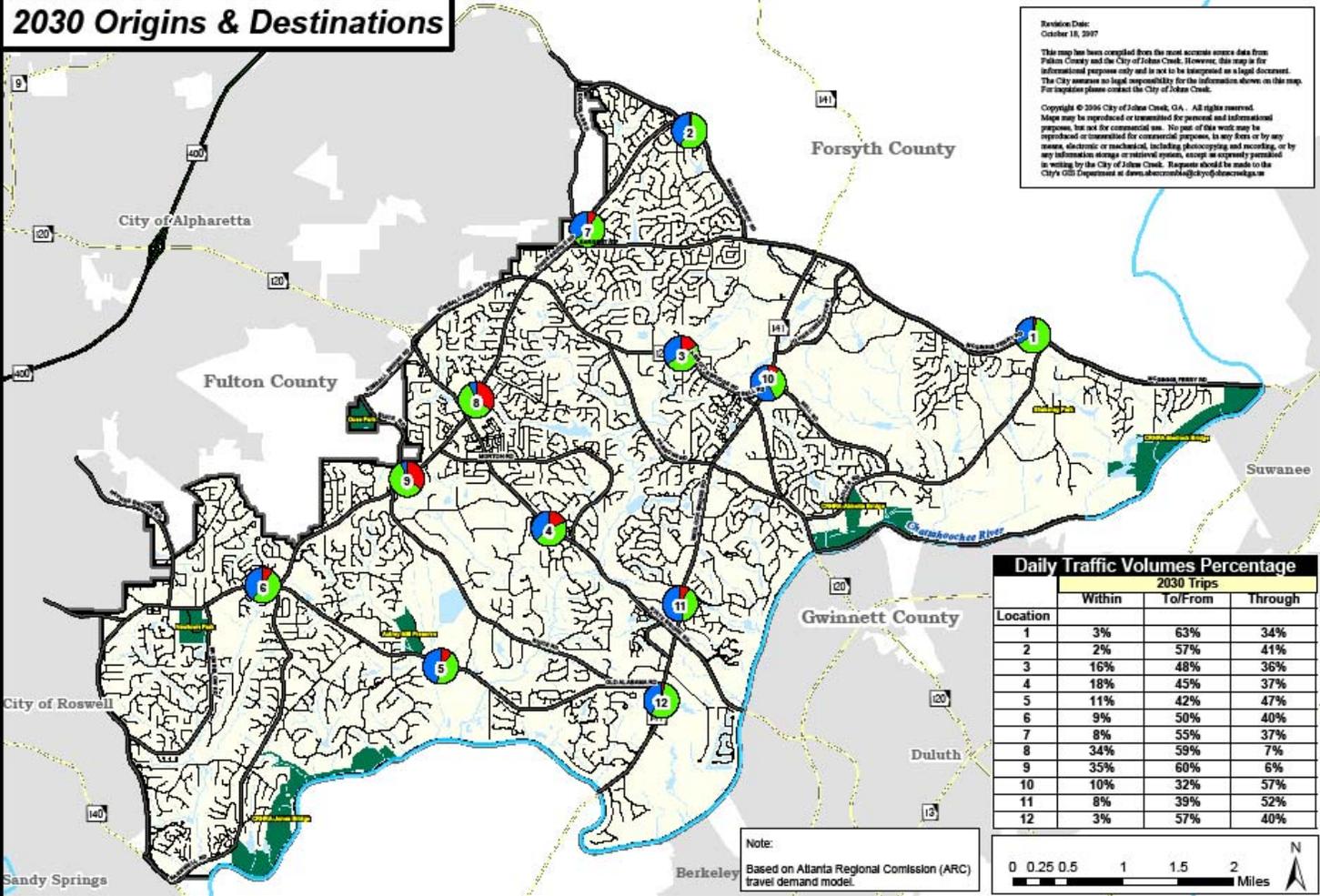
- Other State Highway / U.S. Highway
- Chattahoochee River
- Parks
- Lakes / Ponds / Streams
- Johns Creek City Limits
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- County Boundary

Source: ARC, Fulton County, and Jacobs Carter Burgess

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2030 Origins & Destinations



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Note:
Based on Atlanta Regional Commission (ARC) travel demand model.

Location	2030 Trips		
	Within	To/From	Through
1	3%	63%	34%
2	2%	57%	41%
3	16%	48%	36%
4	18%	45%	37%
5	11%	42%	47%
6	9%	50%	40%
7	8%	55%	37%
8	34%	59%	7%
9	35%	60%	6%
10	10%	32%	57%
11	8%	39%	52%
12	3%	57%	40%



Regional Inset

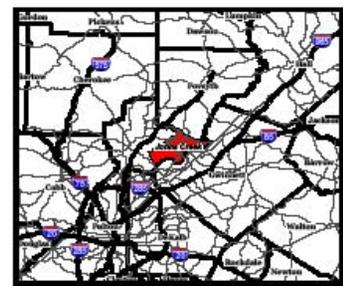


Figure T-18

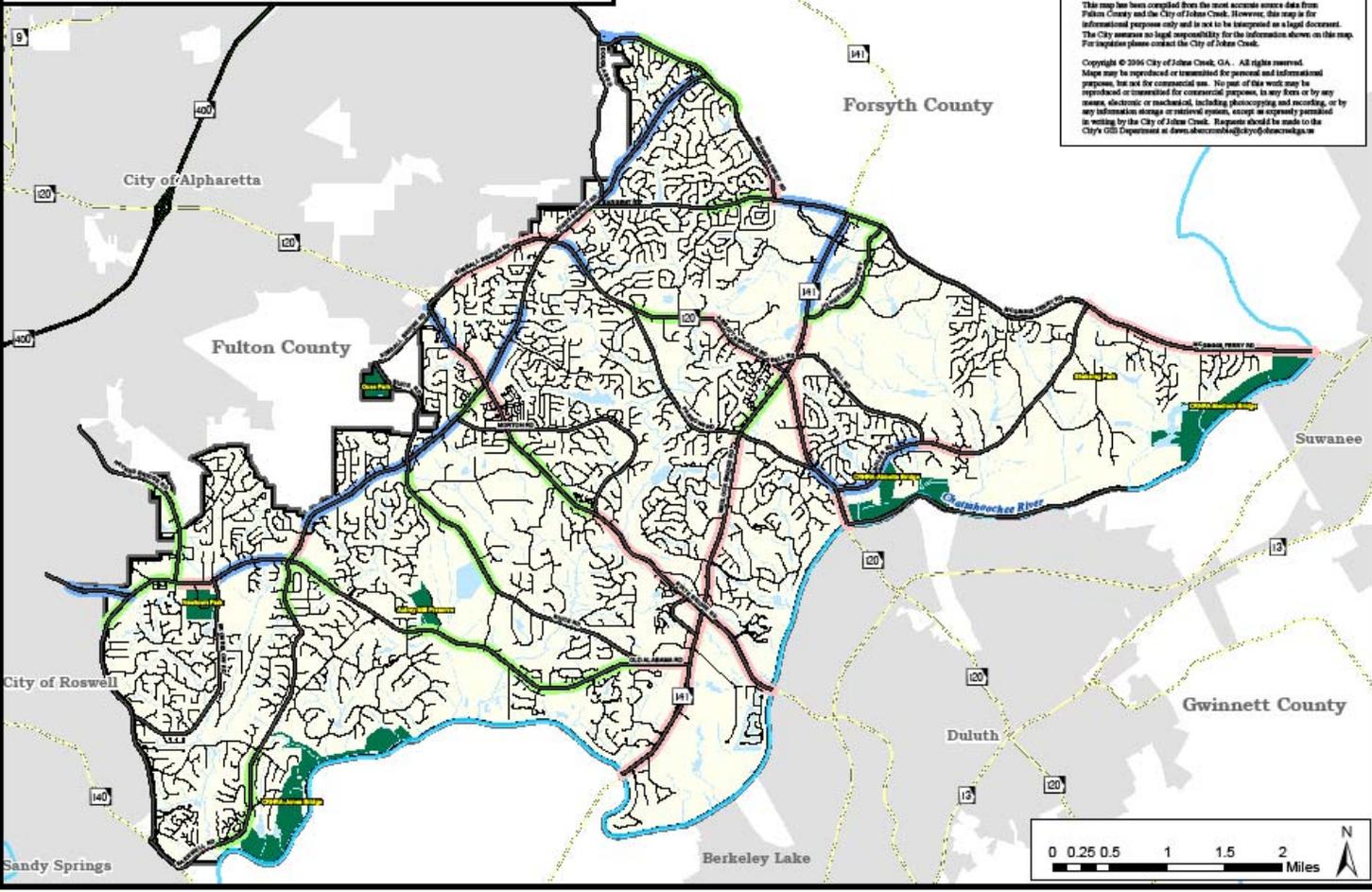
Legend

- Origins & Destinations (2030)
- Origins & Destinations (2030)
 - Trips Within Johns Creek
 - Trips To/From Johns Creek
 - Trips Through Johns Creek
 - Johns Creek Road Network
 - Collector and Above Roadways
 - Local Streets
 - Other Layers**
 - Other State Highway / U.S. Highway
 - Chattahoochee River
 - Parks
 - Lakes / Ponds / Streams
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2030 Peak Hour Capacity Deficiency

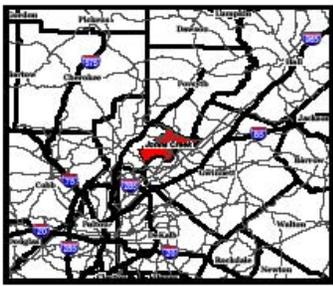


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Regional Inset



Legend

Peak Hour Volume Deficiency:
2030 Volume - Existing Capacity (With McGinnis Ferry Widening)

- 1 - 200 Vehicles
- 201 - 500 Vehicles
- > 500 Vehicles

Johns Creek Road Network

- Major Road
- Local Road

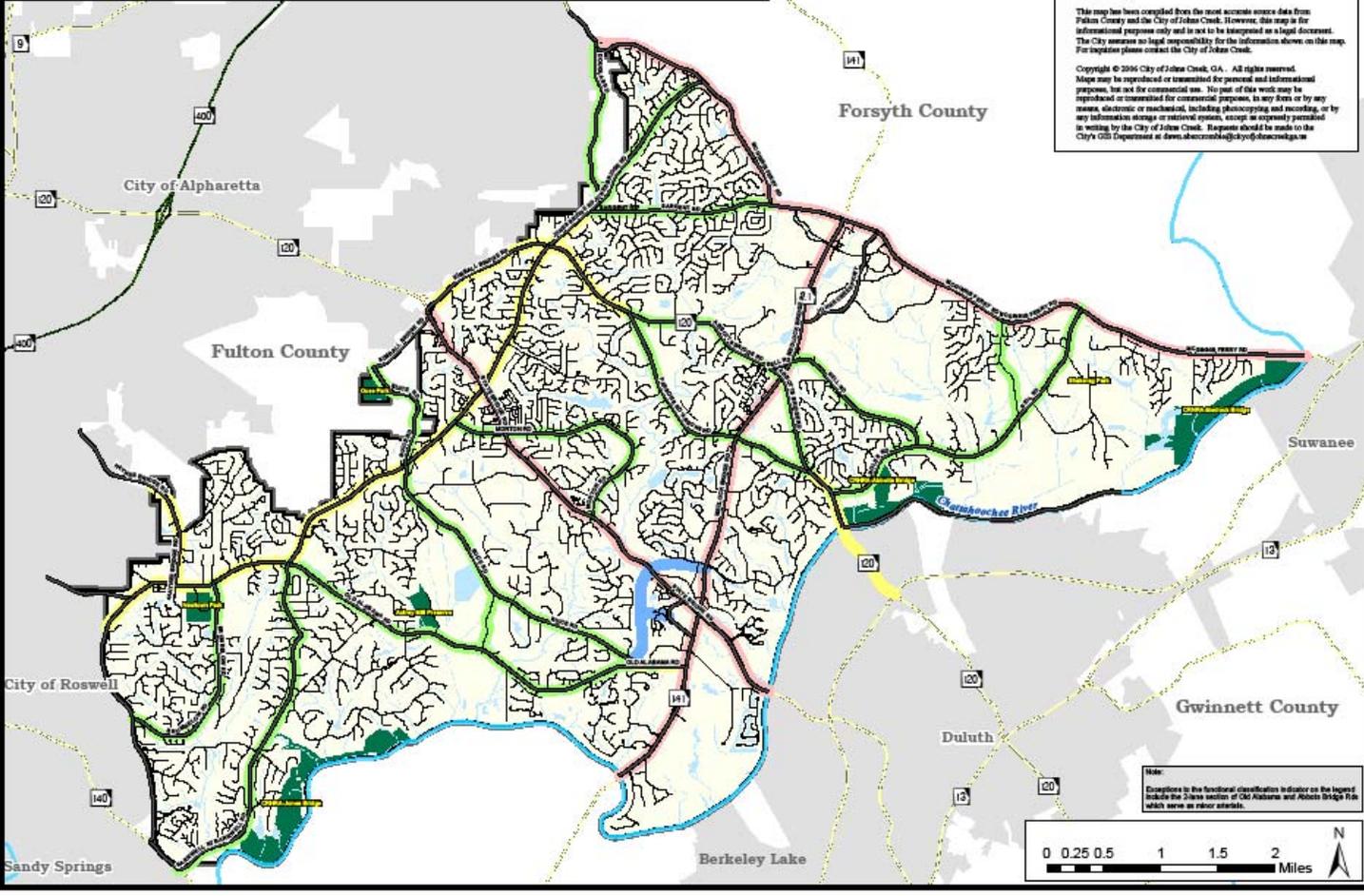
Other Layers

- Other State Highway / U.S. Highway
- Chattahoochee River
- Parks
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2030 Recommended Functional Classification



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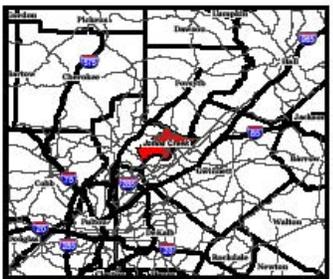
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Note:
Exceptions to the functional classification in disaster on the legend include the Stone Mountain and Atlanta Bridge Park which serve as minor arterials.

0 0.25 0.5 1 1.5 2 Miles

Regional Inset



Legend

2030 Recommended Functional Classification and Roadway Network

- Principal Arterial
- Minor Arterial (4 Lanes)
- Collector - Preserve as 2 Lanes With Turn Lanes
- New Roadway - Collector (2 Lane)

Johns Creek Road Network

- Major Road
- Local Road

Other Layers

- Other State Highway / U.S. Highway
- Chattahoochee River
- Parks
- Lake / Ponds / Streams
- Johns Creek City Limits
- Other City Limits
- County Boundary

Source: City of Johns Creek, Fulton Co., Jacobs Carler Burgess.

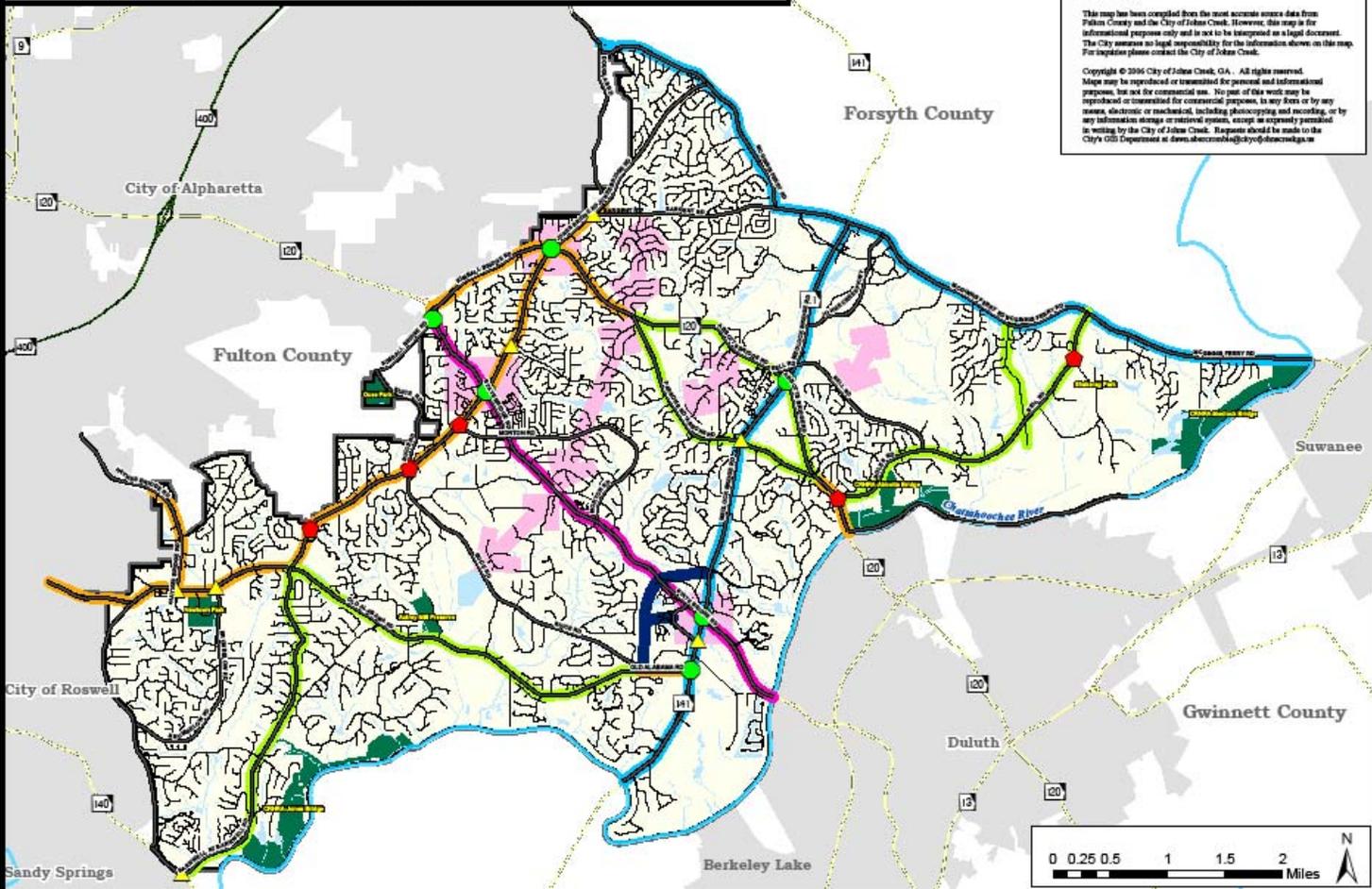
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April 2008

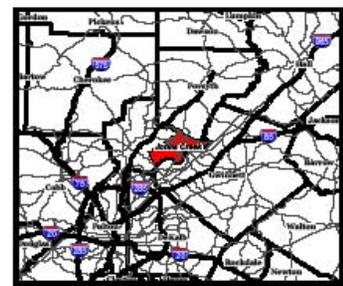
DRAFT



Draft Transportation Project Recommendations



Regional Inset



Legend

- 2030 Intersection Improvement Projects**
 - Major Intersection Improvement
 - Intersection Improvement (Short Term Work Program)
 - ▲ Intersection Improvement (Mid and Long Term)
- 2030 Recommended Functional Classification and Roadway Network**
 - Support Regional Efforts for Future Widening - 6 Lanes
 - Transit Enhanced Corridor to Support Bus Rapid Transit (BRT)
 - Widening - 4 Lanes
 - Corridor Improvements - 2 Lanes
 - New Location / Connector - 2 Lanes
 - Foster Increased Local Roadway Connectivity
- Johns Creek Road Network**
 - Major Road
 - Local Road
- Other Layers**
 - Other State Highway / U.S. Highway
 - Chattahoochee River
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Potential Alternative Intersection Designs

Continuous Green T



The Continuous Green-T can only be used at T-intersections. The design provides free-flow operations in one direction on the arterial and can reduce the number of approach movements that need to stop to three by using free-flow right turn lanes on the arterial and cross streets and acceleration/merge lanes for left turn movements from the cross street.

Main Advantage: Allows ease of signal coordination since only one direction of flow must be coordinated with adjacent intersections, footprint.

Implications: Provides free flowing movement for one direction, with stop or signal control for the second direction. This design does not provide a signal phase for concurrent pedestrian movement across the intersection. The design allows

Where it has been applied: Cobb County, South Carolina, Florida

Quadrant Roadway

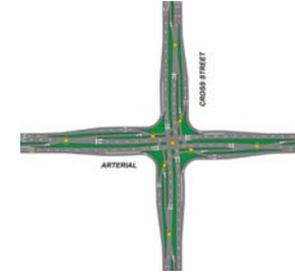


Main Advantage: Turning movements at the main intersection are limited allowing 2-phase signal operation.

Implications: Relocates turning traffic to adjacent intersections frees operation at main intersection, but requires more circuitry of travel for other movements. Application in multiple quadrants reduces travel circuitry.

Where it has been applied: Commonly applied without turn restrictions at the main intersection.

Continuous Flow Intersection

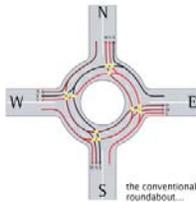


Main Advantage: Left and right turns are removed from the main intersection and run concurrently with the corresponding through movement. This results in a two-phase signal operation, increasing intersection efficiency.

Implications: Intersection can support significantly more traffic than a standard at-grade intersection. Accommodating the contraflow left turn lanes and dedicated right turn lanes requires additional width and access control extending several hundred feet from the intersection.

Where it has been applied: Baton Rouge, Louisiana and Prince George County, Maryland, as well as in Mexico.

Roundabout

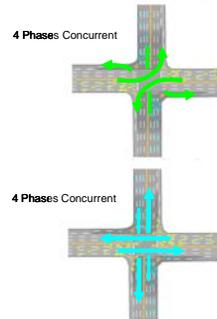


Main Advantage: Eliminates vehicle conflict points and improves safety.

Implications: More efficient traffic control for low volume intersections.

Where it has been applied: Throughout the U.S.

Two Level Signalized Intersection



Main Advantage: Under this design, 4 phases can operate concurrently.

Implications: Intersection capacity during peak hours of traffic can support more than twice amount of traffic at a standard at-grade intersection.

Where it has been applied: Seoul, Korea

Center Turn Overpass



Main Advantage: Removes left turns from the signal allowing 2-phase signal operation.

Implications: Prevents left turning traffic from impacting signal operations. Requires grade separation with elevated sections along both streets.

Where it has been applied: Texas

