

Transportation Safety Enhancing Livability

GPA Fall Conference 2010

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Atlanta Regional Commission

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How Does Atlanta MPO Compare?

- Georgia Ranks **4th** in Nation for Number of Fatalities (2006-2008 Annual Average)*
 - California: 3,890 Fatalities (max)
 - Georgia: **1,610** Fatalities
 - Alaska: 50 Fatalities (min)
- Atlanta 18-County MPO Ranks Higher than 24 States with Yearly **573** Fatalities
- Goals
 - AASHTO National Goal: Reduce Fatalities by **1,000** per Year
 - Georgia Goal: Reduce Fatalities by **41** per Year (share of national 3.9%)
 - Atlanta MPO: Reduce Fatalities by **15** per year (share of state 36%)

* Based on Fatality Analysis Reporting System (FARS) Data

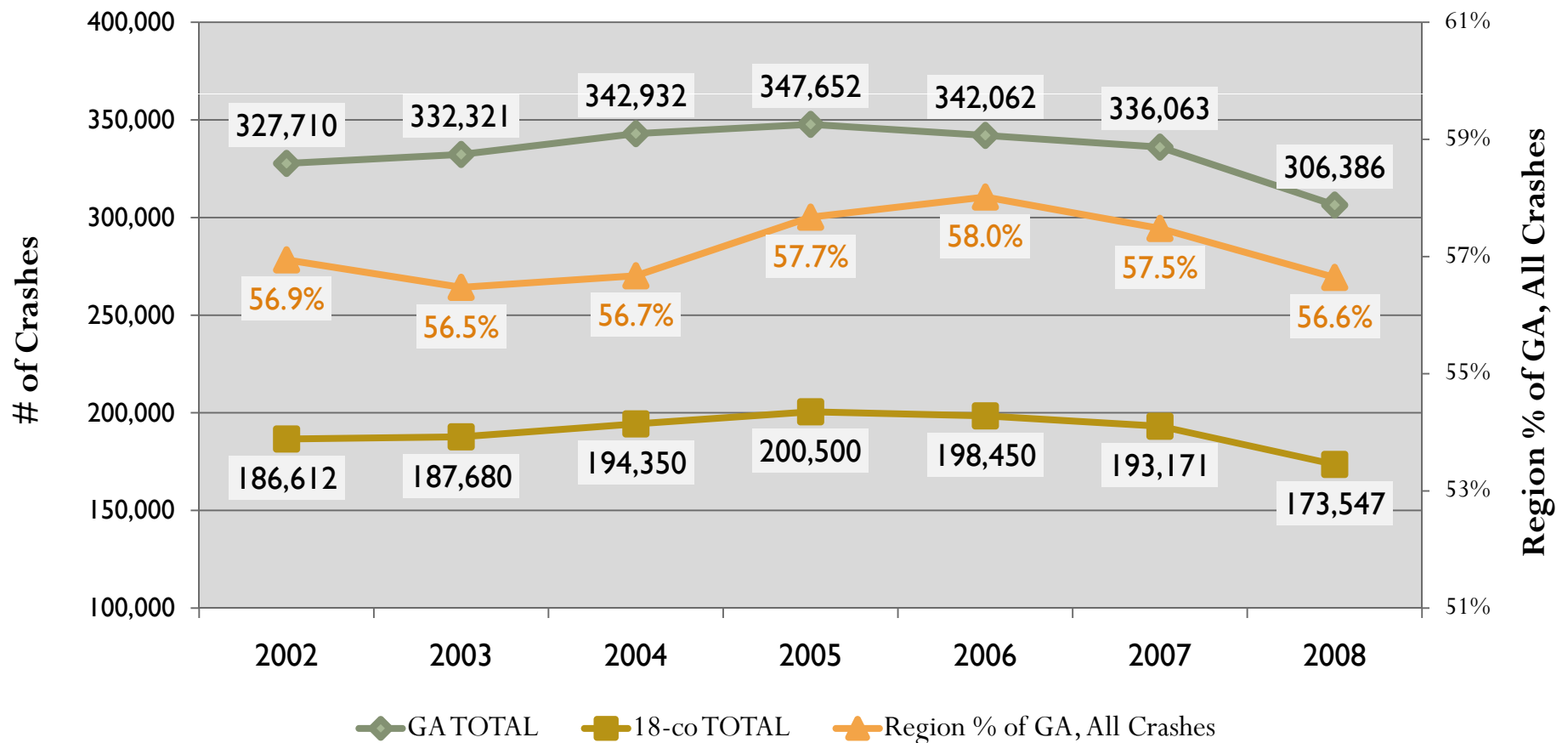
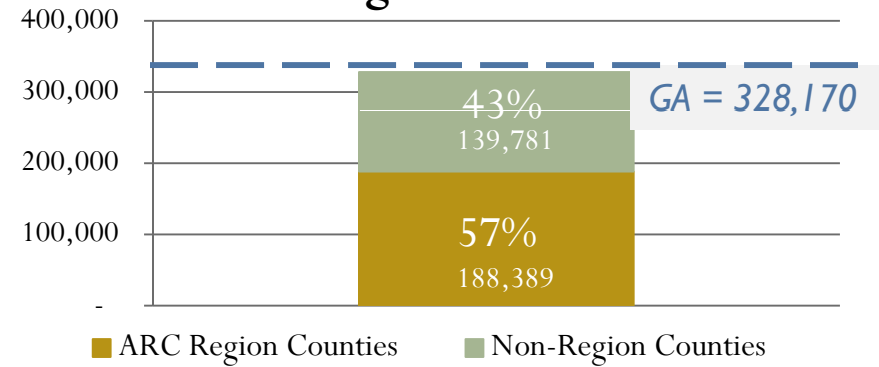
Regional
Transportation
Safety



All Crashes

Region to State Comparison

Annual Avg 2006-08 – All Crashes

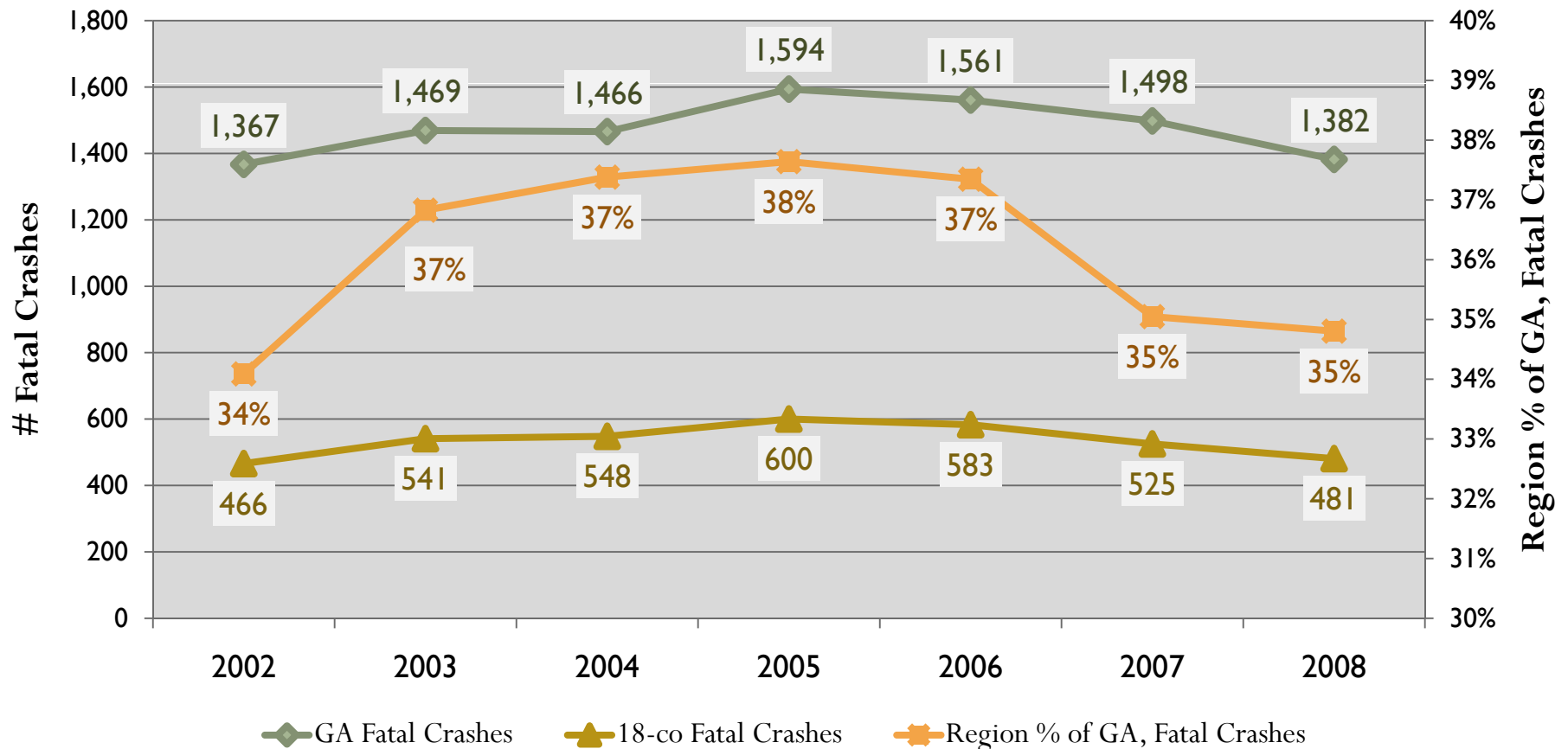
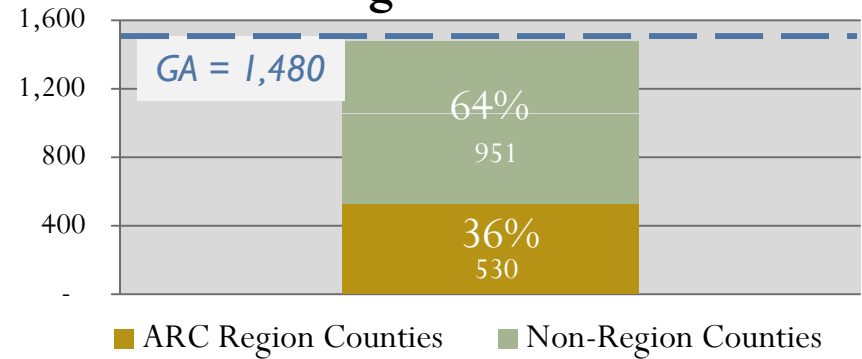


Source: Critical Analysis Reporting Environment (CARE)

Fatal Crashes

Region to State Comparison

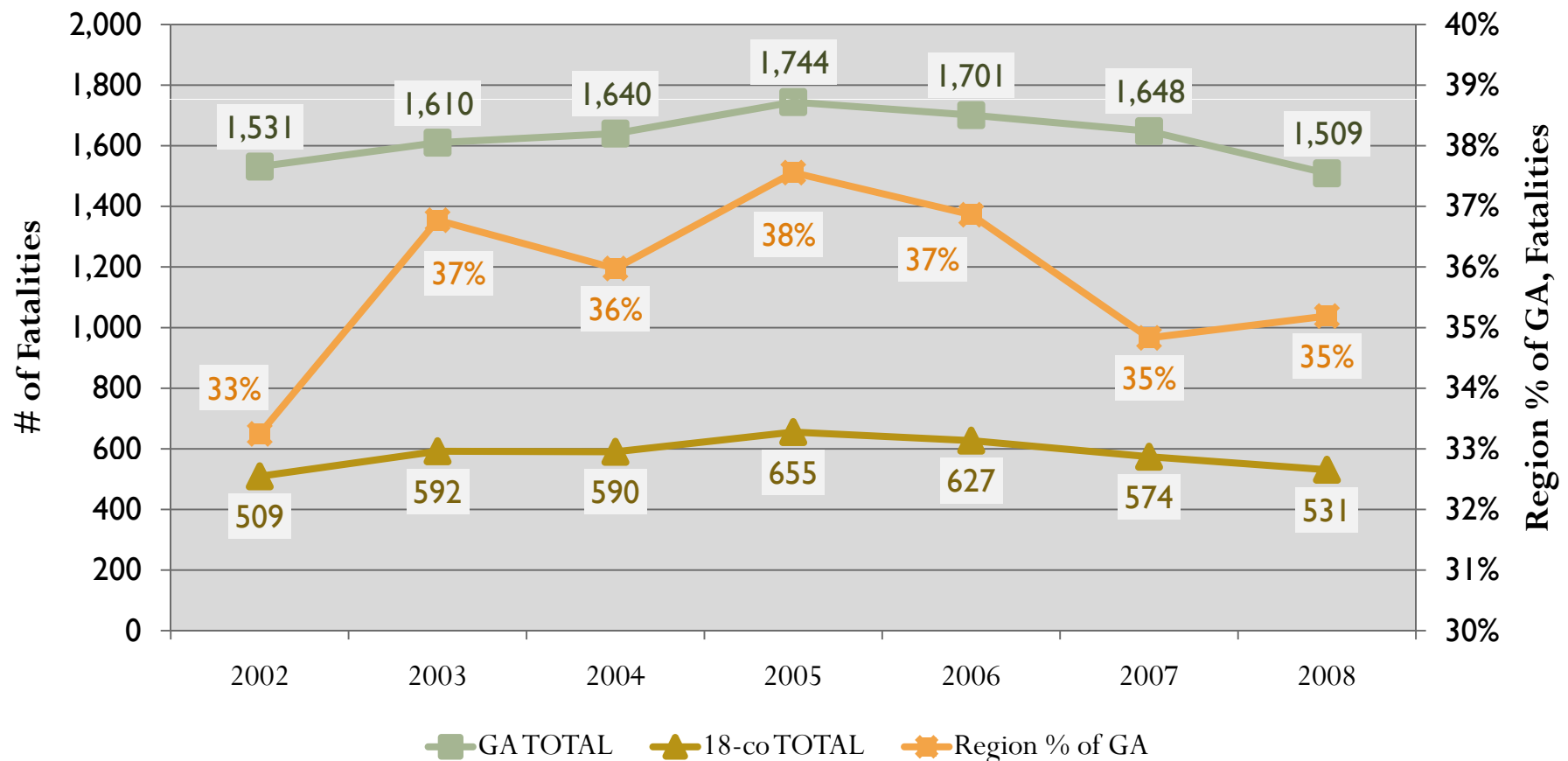
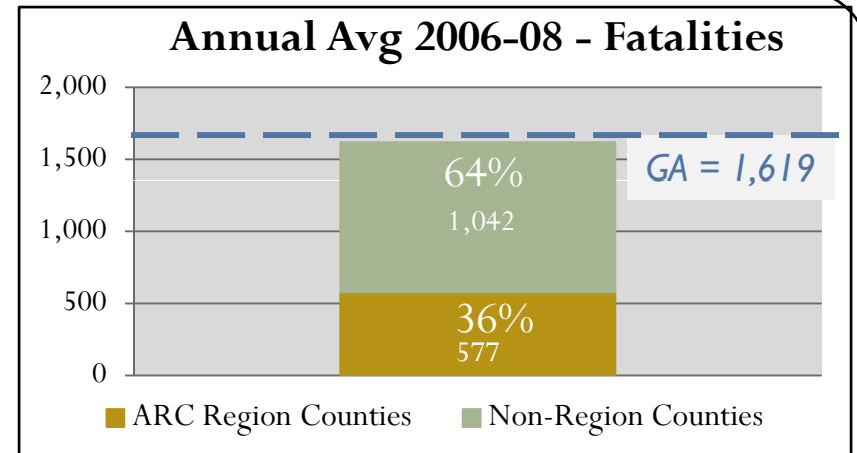
Annual Avg 2006-08 - Fatal Crashes



Source: Critical Analysis Reporting Environment (CARE)

Number of Fatalities

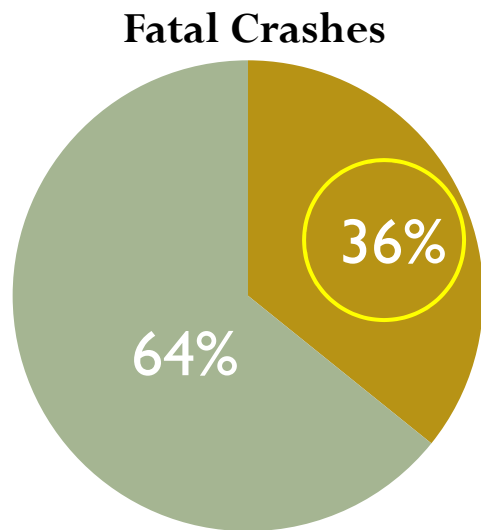
Region to State Comparison



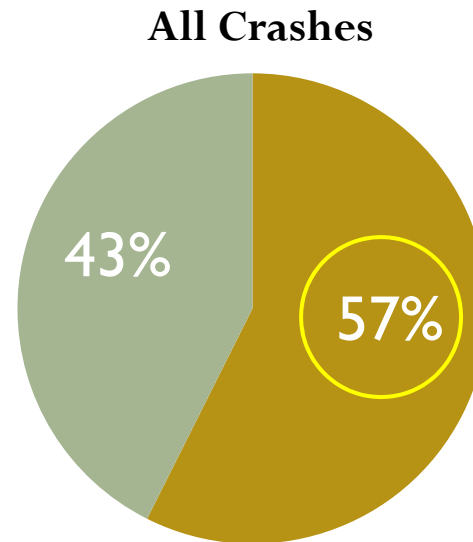
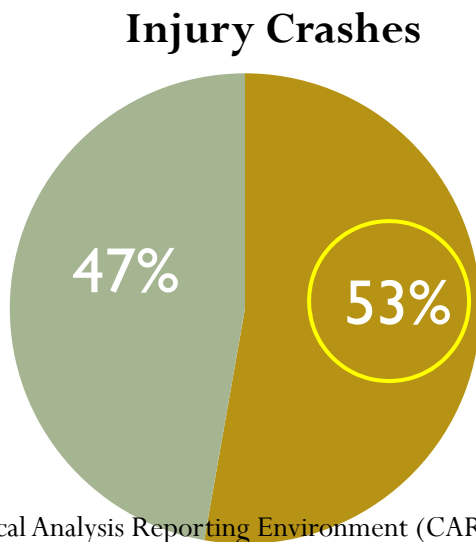
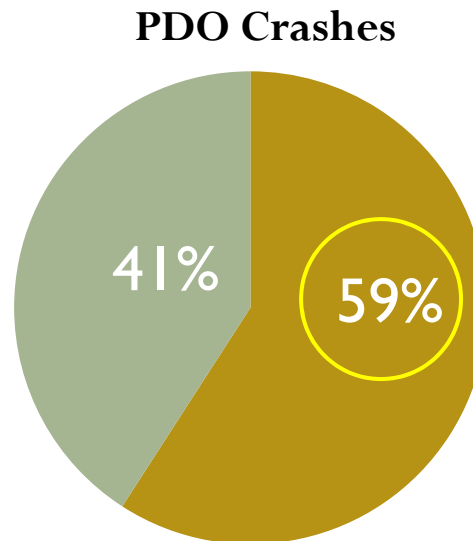
Source: Critical Analysis Reporting Environment (CARE)

2006-2008 Crash Averages

region percent of state total



The region accounts for more than half of PDO and Injury Crashes for the state, but less than half for Fatal Crashes.



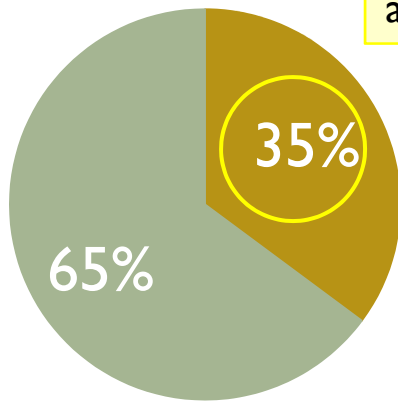
■ 18-county Total
■ Non-Region Counties

2006-2008 Injury Averages

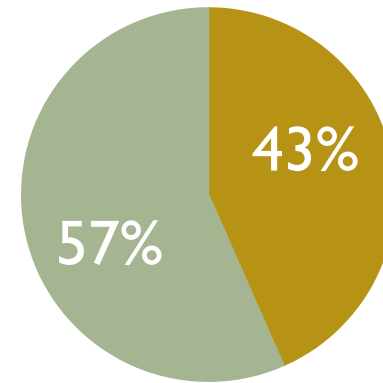
region percent of state total

The Atlanta region accounts for 52% of Georgia's population and 48% of Georgia's total VMT.

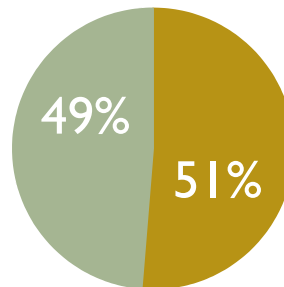
Fatalities



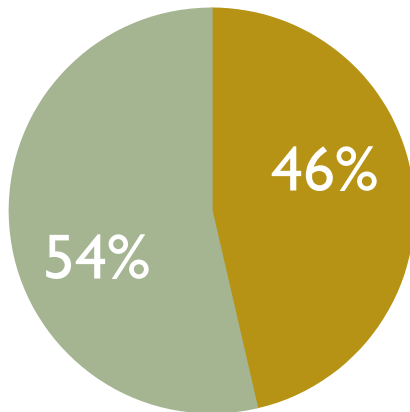
Visible Injuries



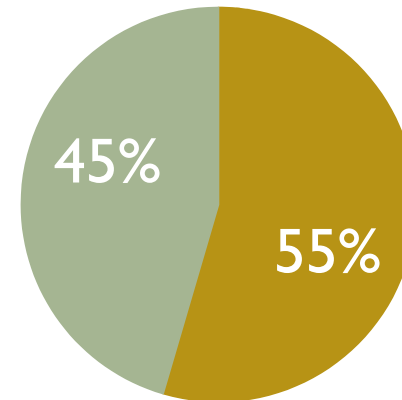
All Injuries



Serious Injuries



Complaint Injuries



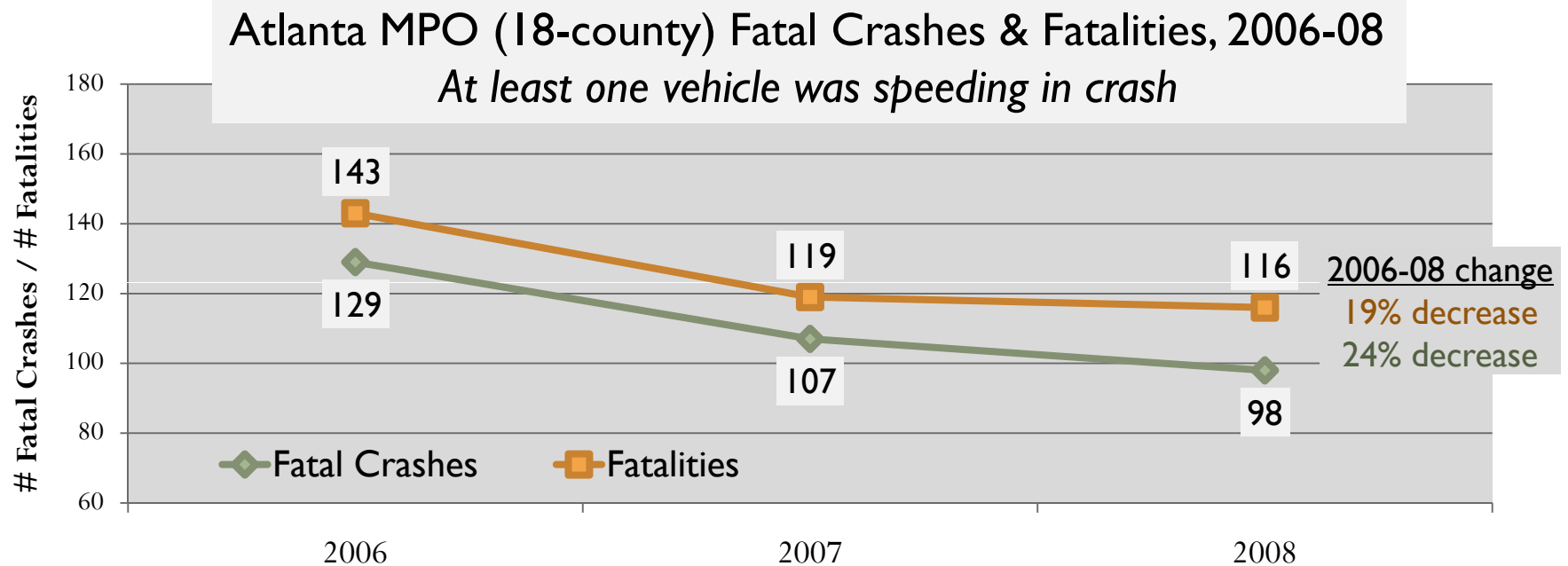
■ 18-county
■ Rest of State

GA SHSP Emphasis Areas

1. Aggressive Driving/Super Speeder
2. Impaired Driving
3. Occupant Protection
4. Age-related
 - *Young Driver*
 - *Older Driver*
5. Serious Crash Type
 - *Intersections*
 - *Lane Departure*
 - *Work Zones*
6. Vehicle Type
 - *Heavy Trucks*
 - *Motorcycles*
7. Non-motorized Users
 - *Pedestrians*
 - *Bicyclists*



1. Aggressive Driving/Super Speeder

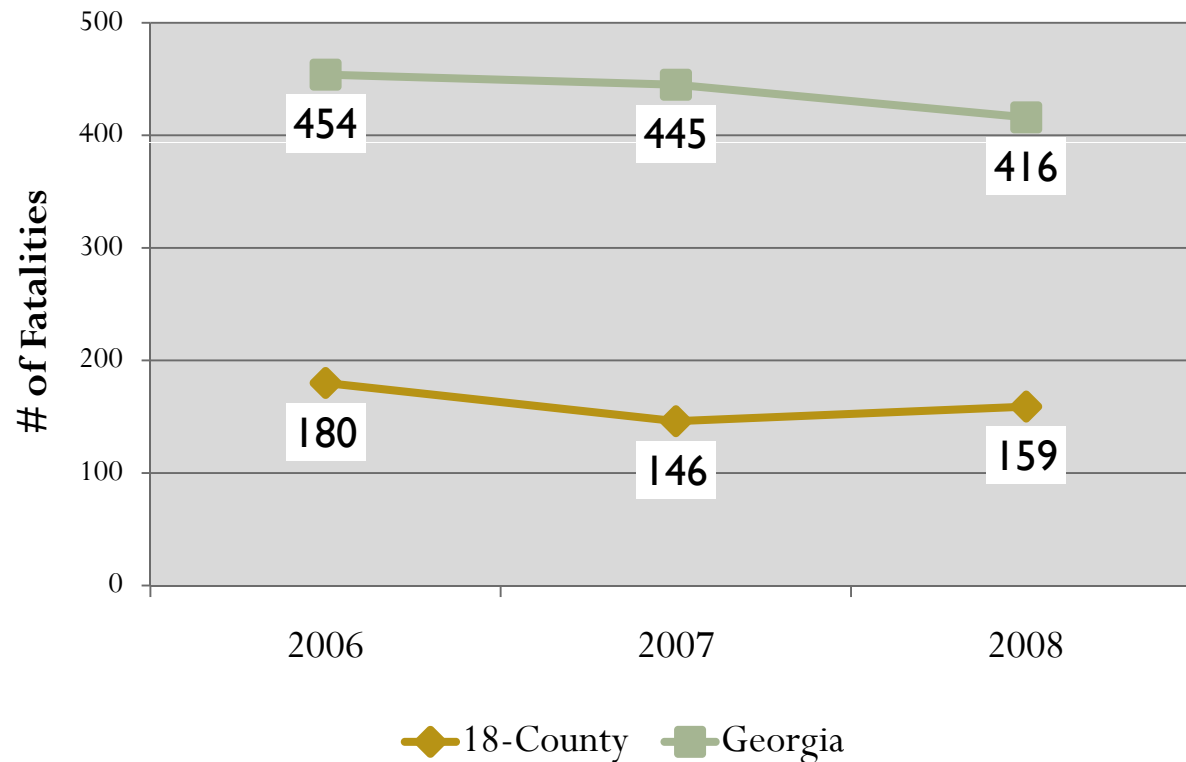


ARC Region (116) accounts for 38% of all State (309) Fatalities involving speeding for Year 2008

Fatal Crashes			Fatalities		
# of Fatal Crashes with Speeding involved in Region	# of Fatal Crashes in Region	% of all Fatal Crashes	# of Fatalities with Speeding involved in Region	# of all Fatalities in Region	% of all Fatalities
334	1,589	21%	378	1,732	22%

2. Impaired Driving

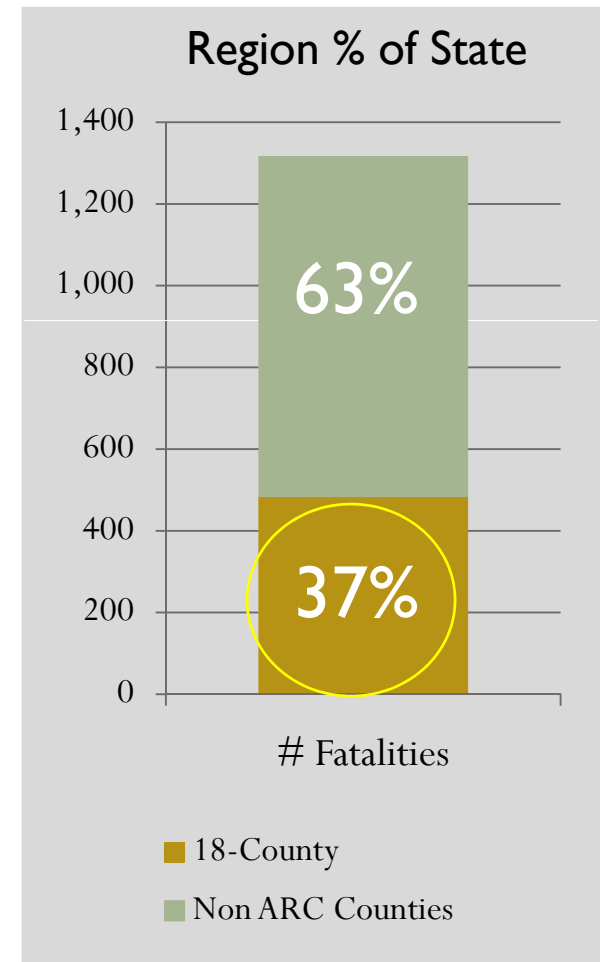
Persons Killed in Crash With
at Least One Driver Impaired



2006-08 Change

Georgia: 8% decrease

Region: 12% decrease

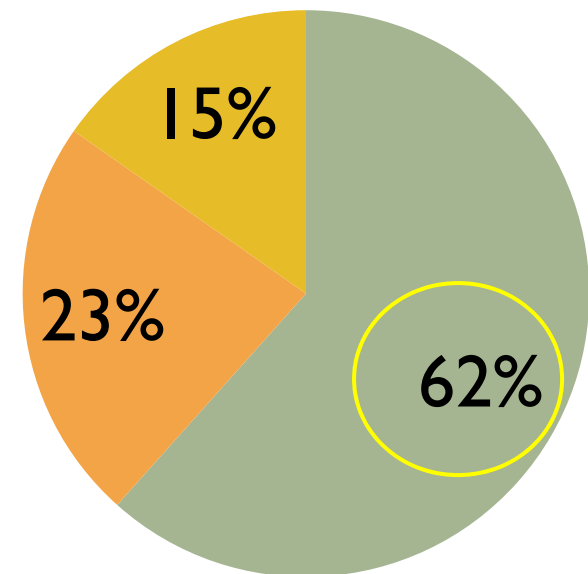
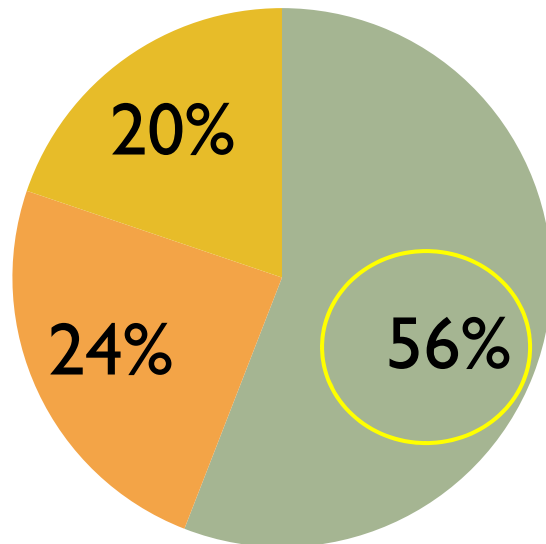


3. Occupant Protection

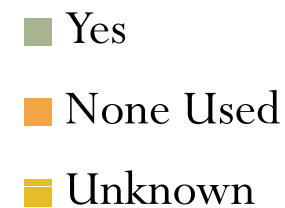
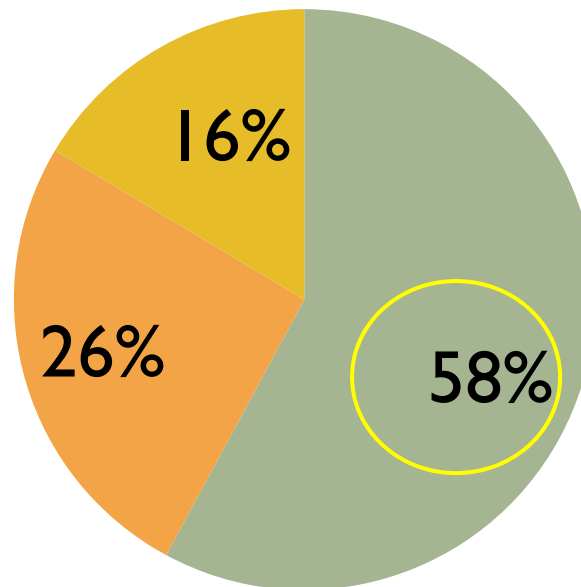
Crashes

...Out of all Fatal Crashes in the Region

Vehicles

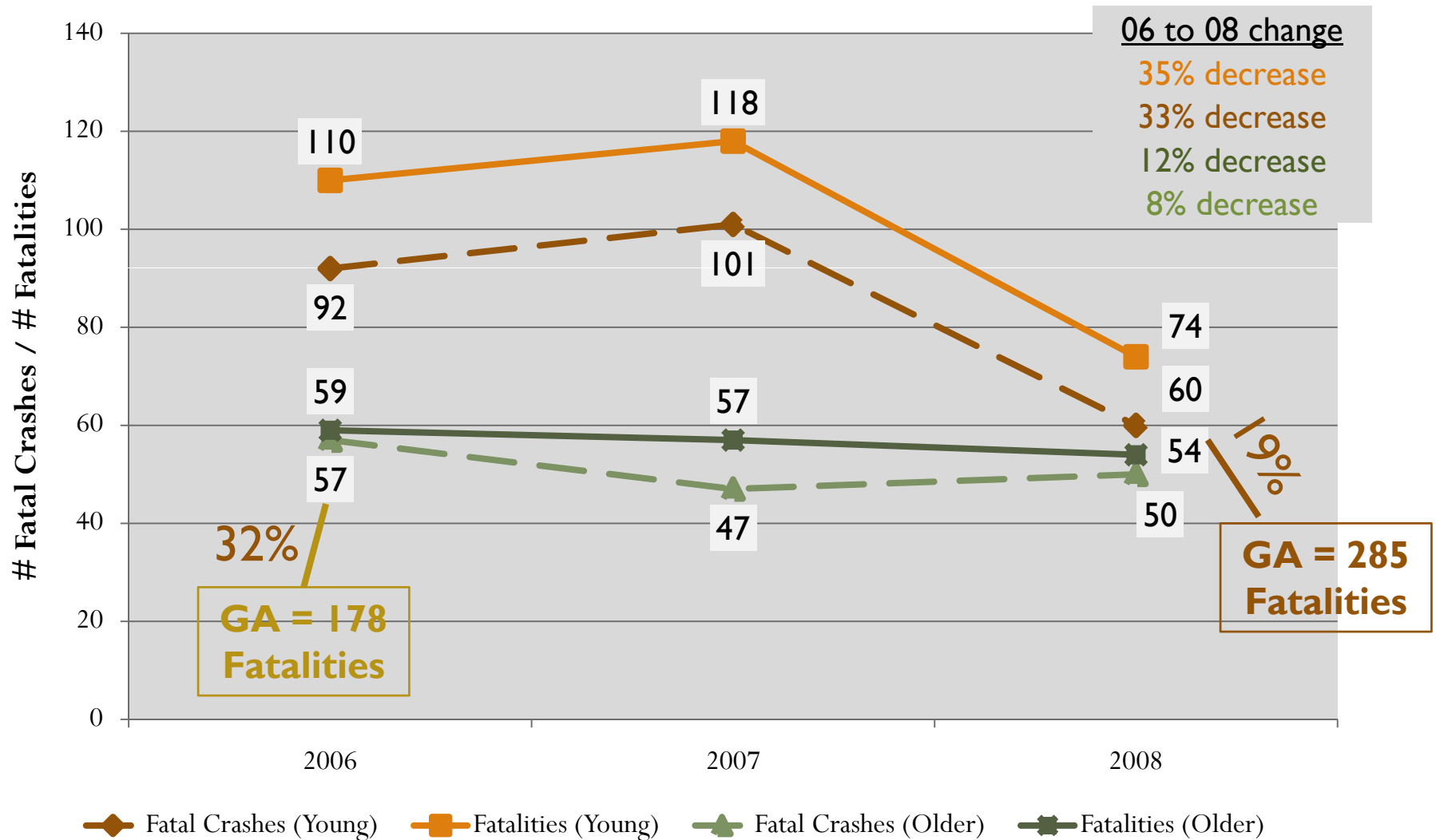


Occupants



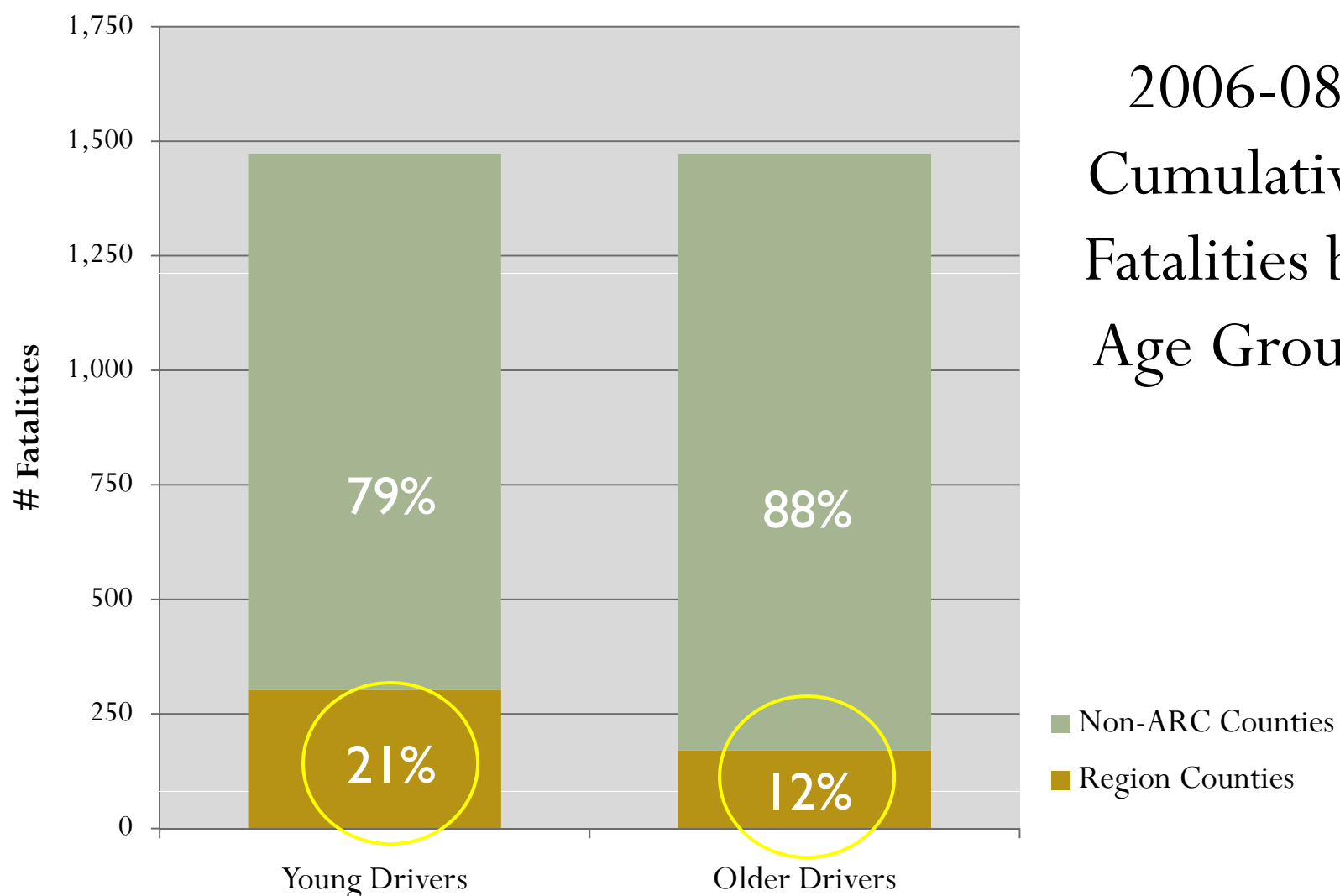
4. Age Related: *Older Drivers & Young Drivers*

Emphasis Areas



4. Age Related: *Older Drivers & Young Drivers*

Emphasis Areas



Source: Critical Analysis Reporting Environment (CARE)

5. Serious Crash Type

Fatal Crashes and Fatalities at Intersections

Intersections	2006	2007	2008	2006-08 Change		3-Year Total	% of all Region Fatalities
				Number	Percent		
# Fatal Crashes	157	159	135	-22	-14%	451	28%
# Fatalities	167	175	148	-19	-11%	490	28%

Source: Critical Analysis Reporting Environment (CARE)

“The [State] goal by 2014 is to reduce the expected average number of intersection fatalities of 415 to 365.”

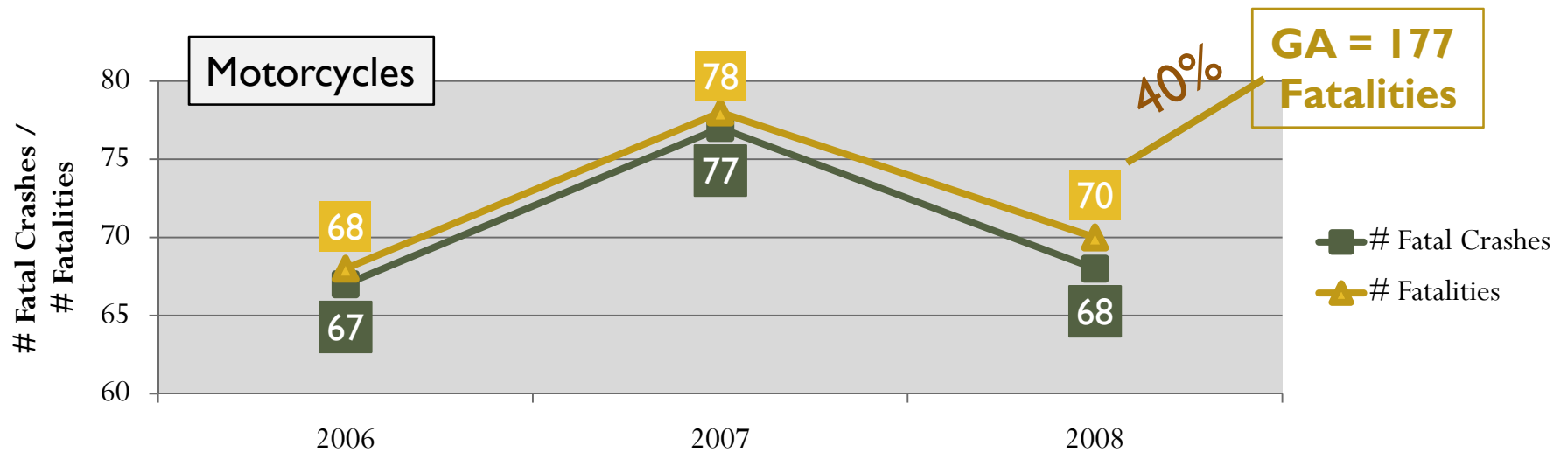
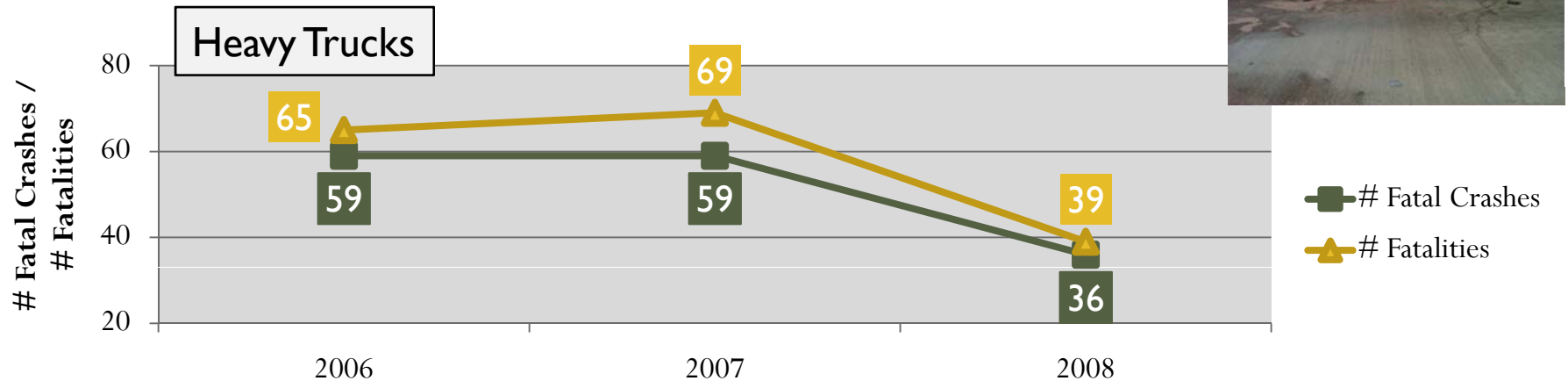
Georgia Totals	2001	2002	2003	2004	2005	Average
Intersection Fatalities	500	371	366	394	443	415

Source: Georgia 2009 SHSP Intersection Safety Action Plan

6. Vehicle Type

Heavy Trucks & Motorcycles

Emphasis Areas

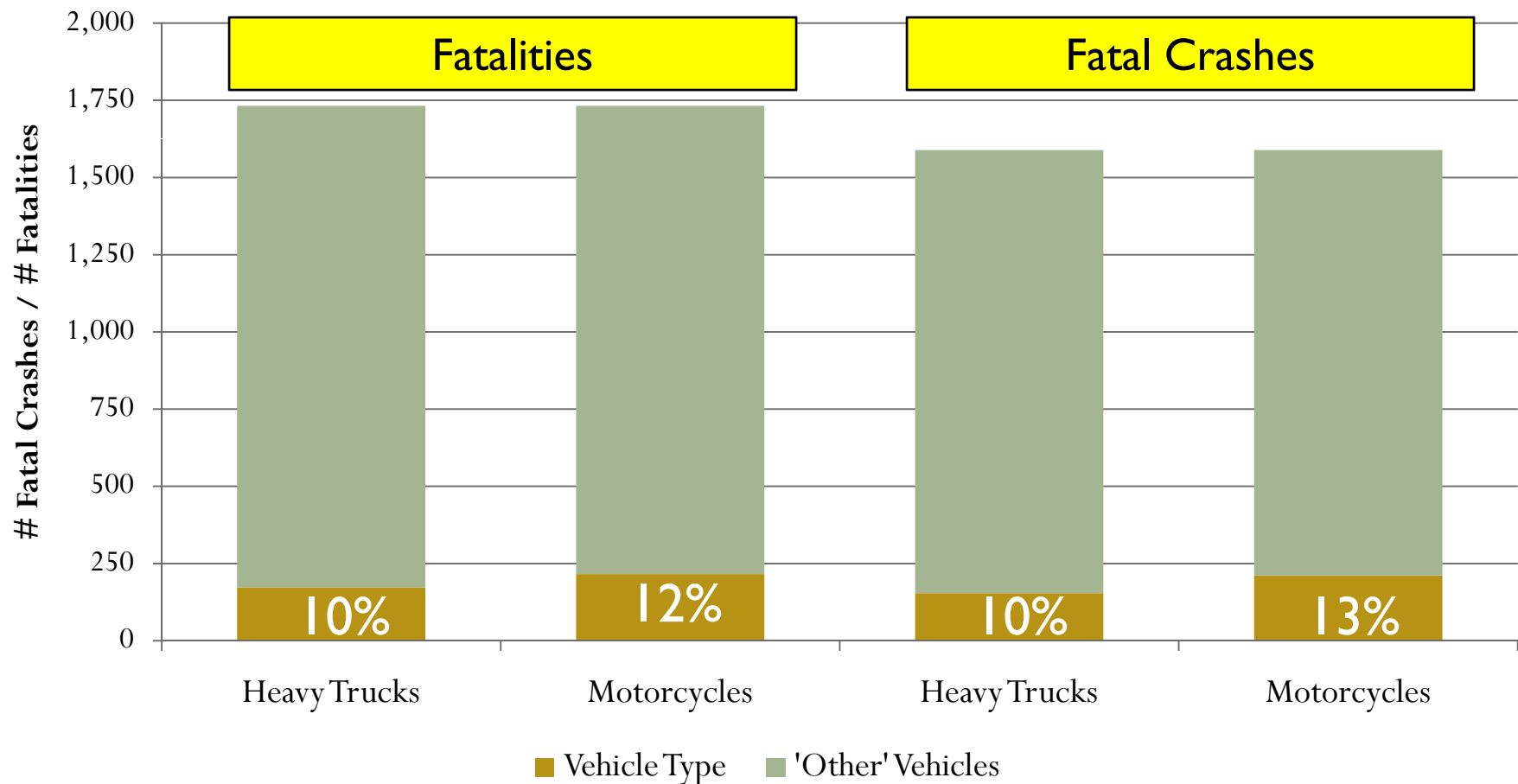


6. Vehicle Type

Heavy Trucks & Motorcycles

Emphasis Areas

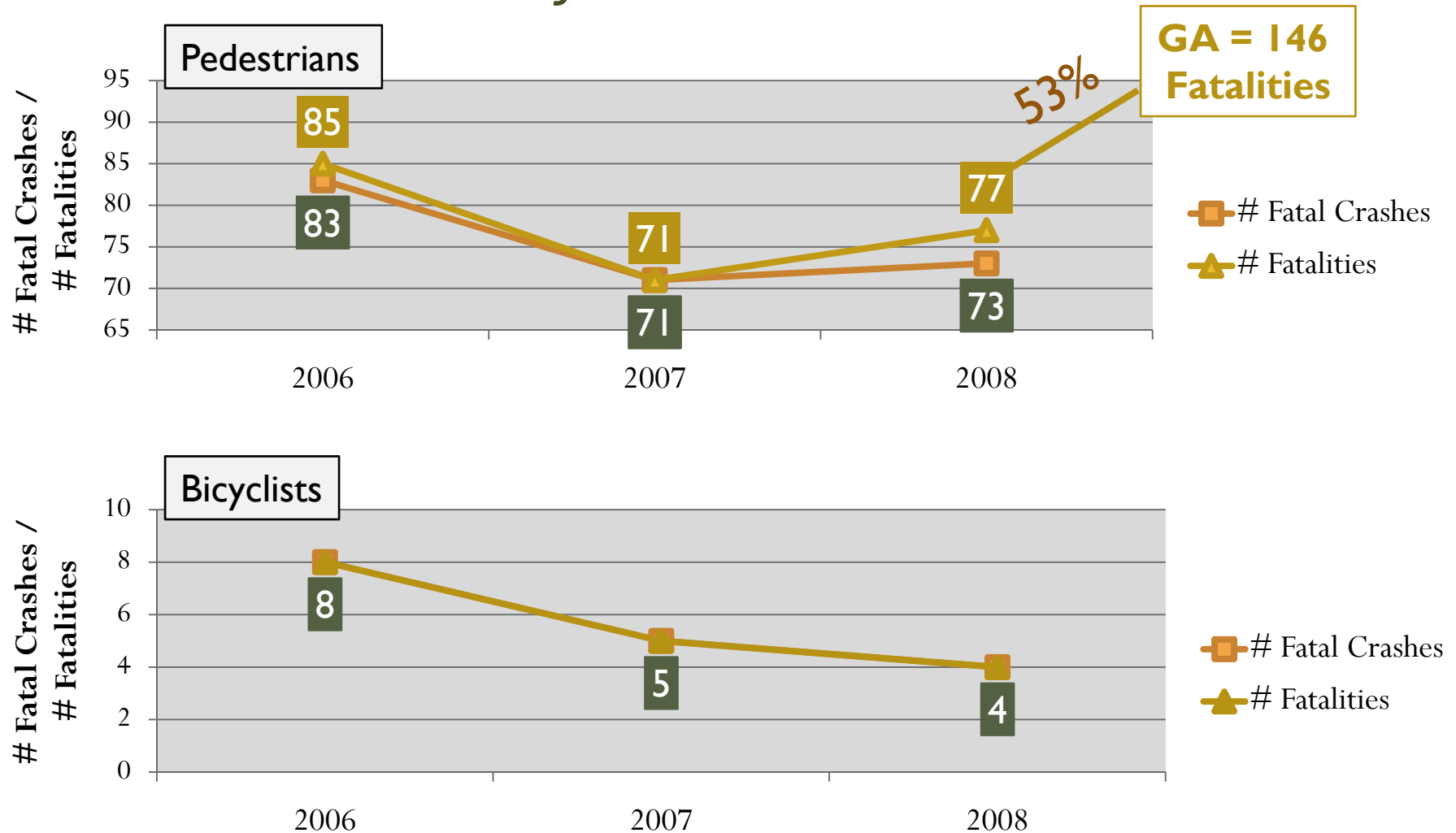
Vehicle Type as Percent of Region Total Fatal Crashes and Fatalities



Source: Critical Analysis Reporting Environment (CARE)

7. Non-Motorized Users

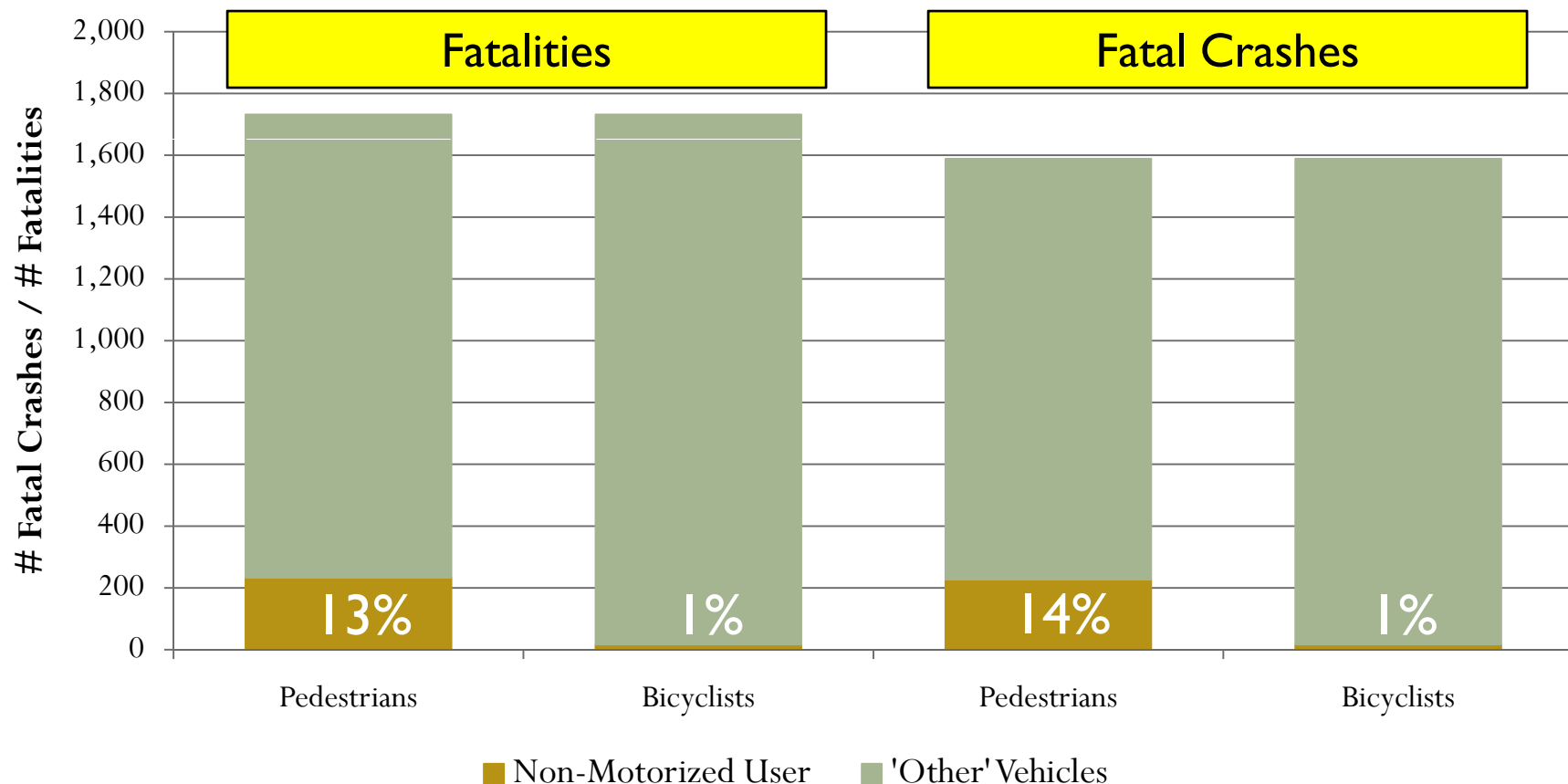
Pedestrians & Bicyclists



7. Non-Motorized Users

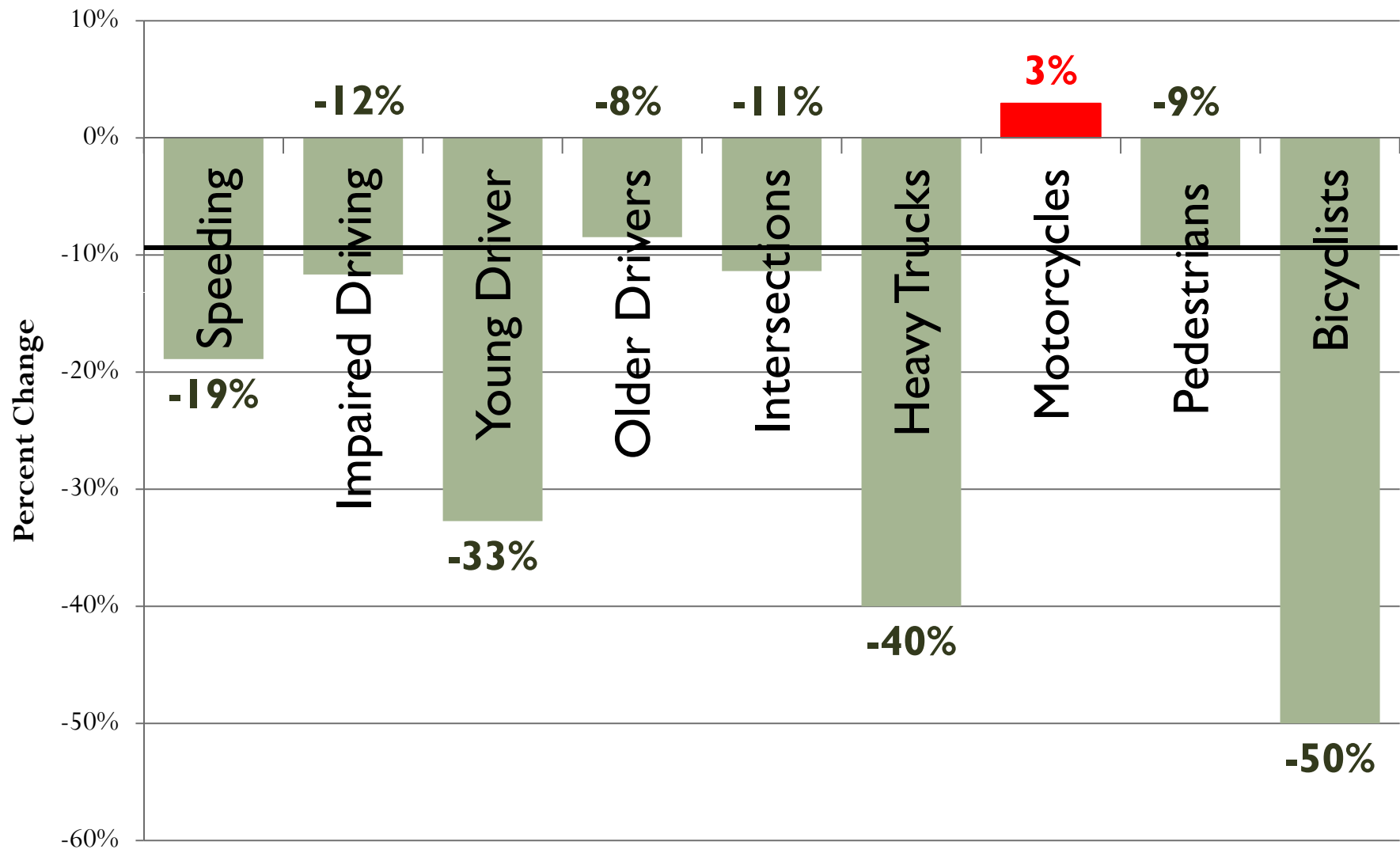
Pedestrians & Bicyclists

Non-Motorized User as Percent of Region Total Fatal Crashes and Fatalities



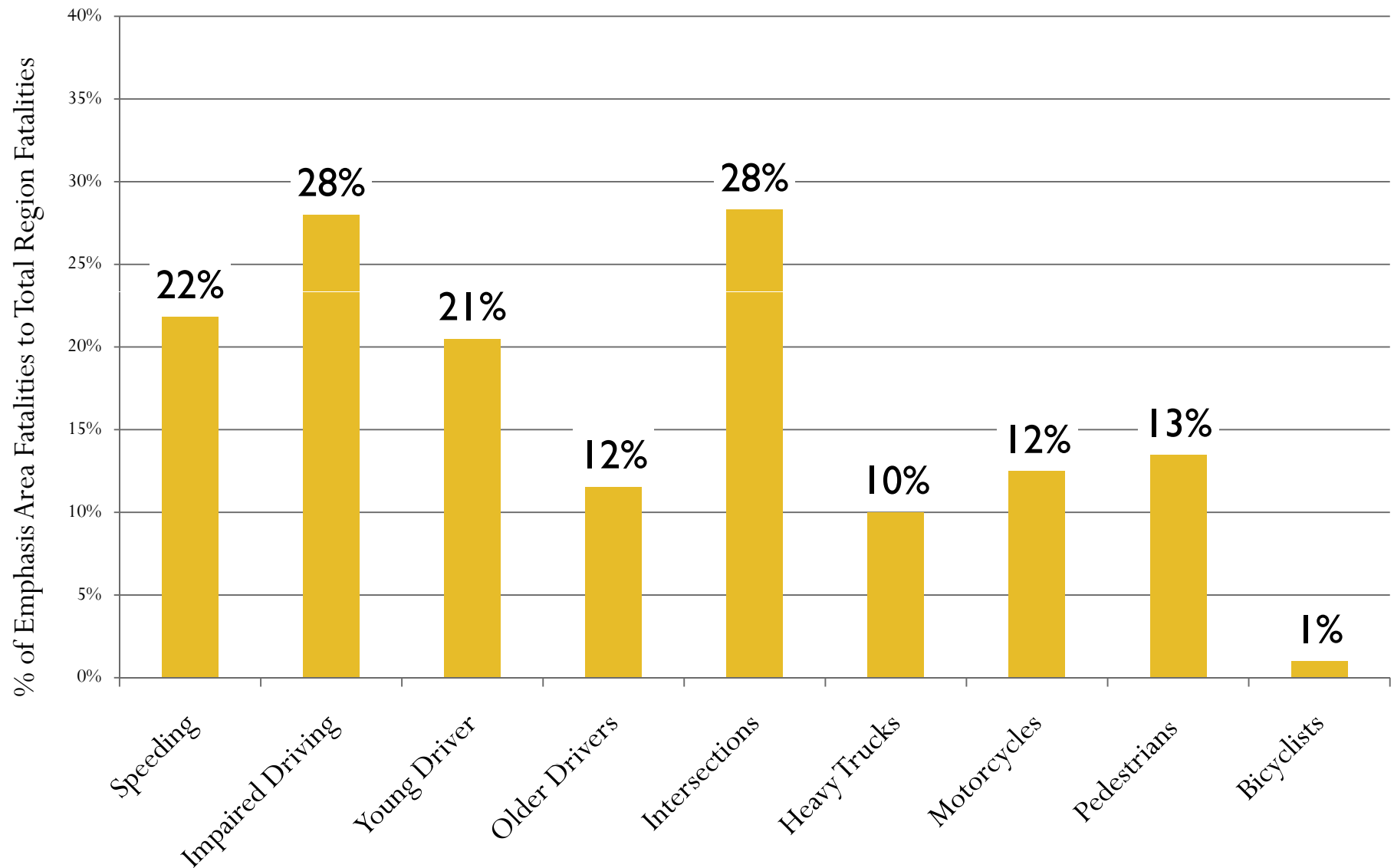
Emphasis Areas

2006-08 Percent Change in Fatalities



Source: Critical Analysis Reporting Environment (CARE)

2006-08 Percent of Total Region Fatalities



Source: Critical Analysis Reporting Environment (CARE)

Crash Profiles

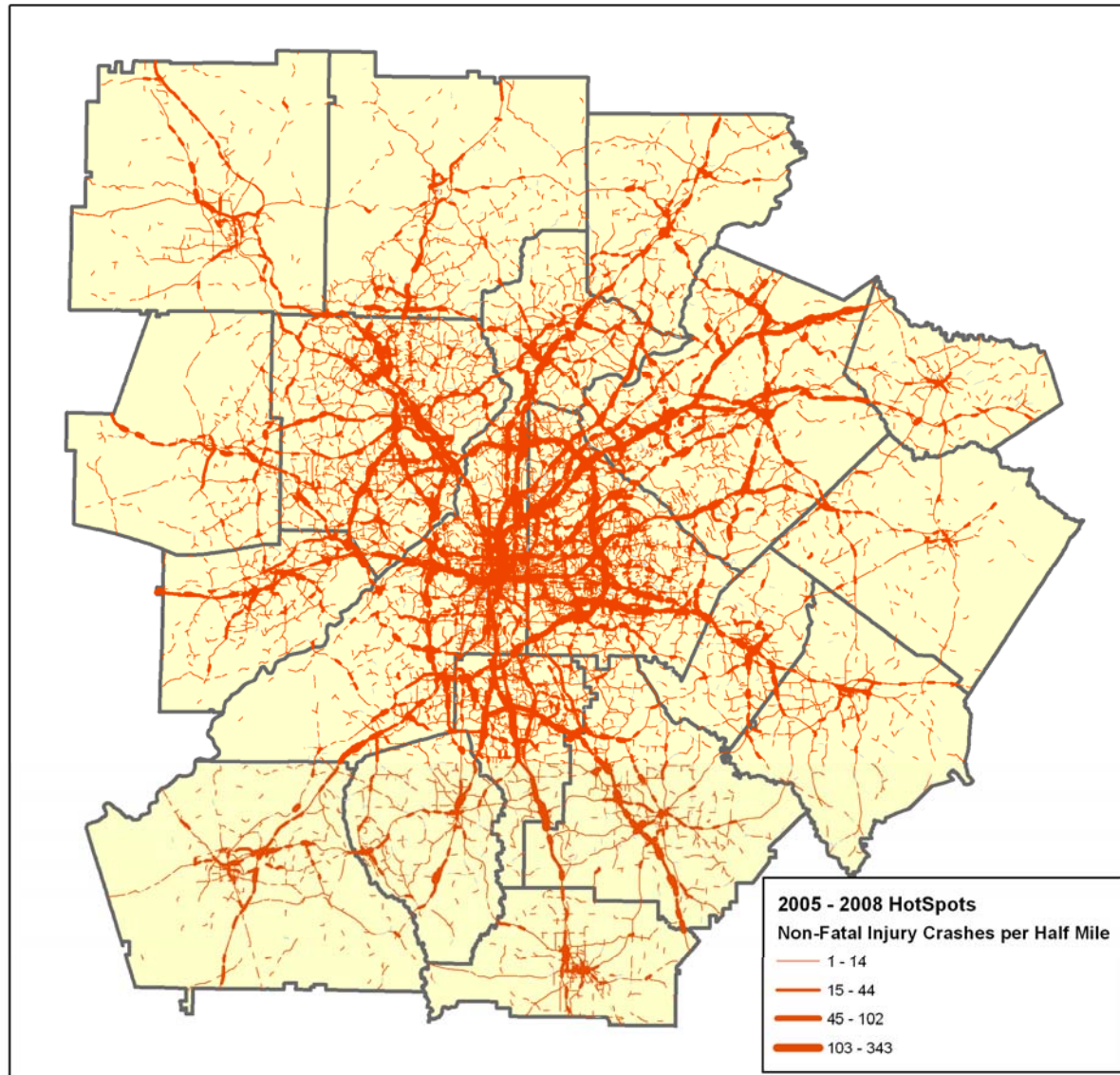


Regional Crash Profiles

Life – Congestion - Costs

- Purpose
 - Expand role of safety in regional dialogue about congestion
 - Establish magnitude of crash problem at regional and county levels
 - Help project sponsors identify hot spots and prioritize improvements
 - Connect regional initiatives with statewide goals

Injury Crashes per Half Mile



44,718 Non-Fatal Injury Crashes (annual average)

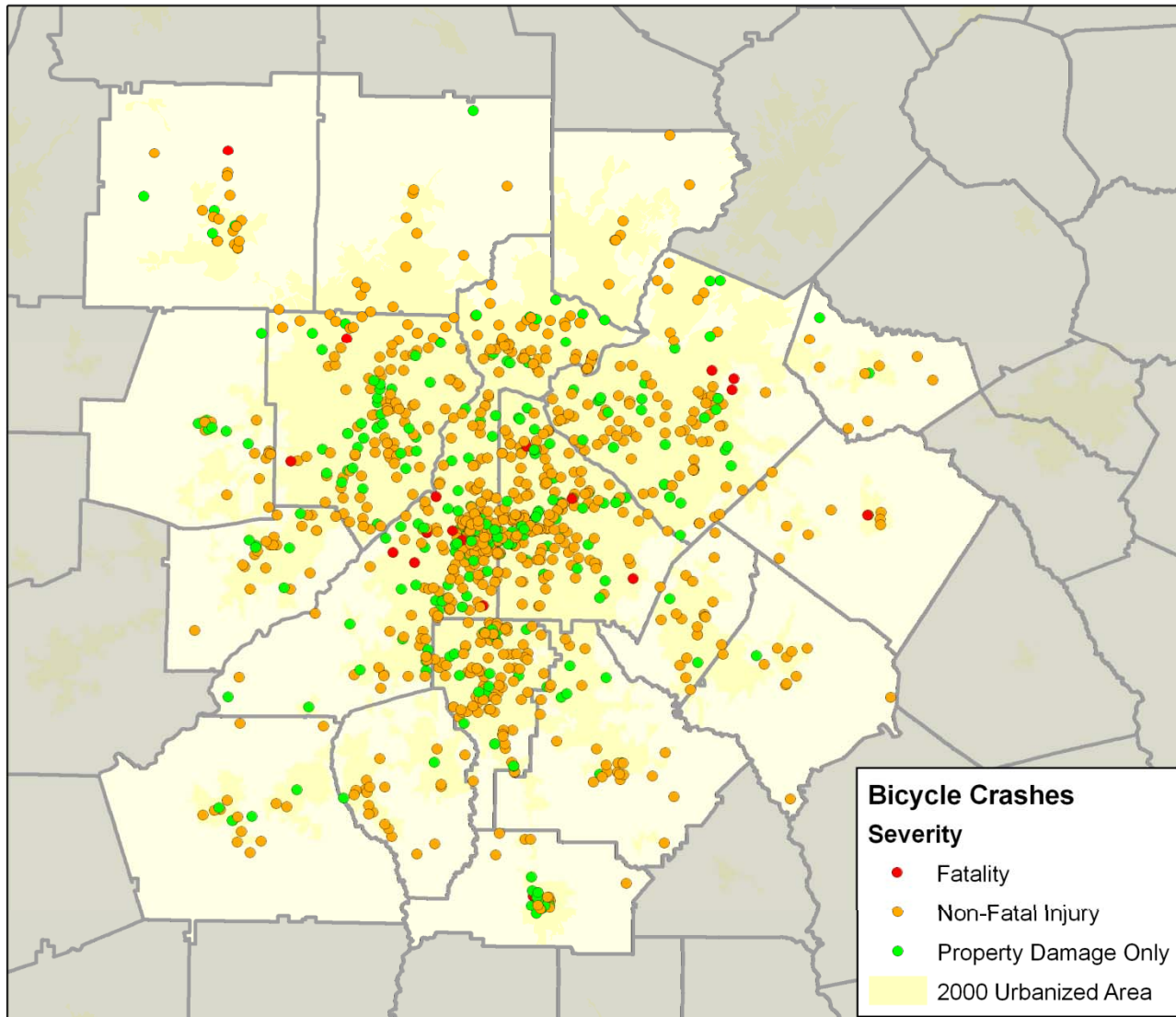
86 Non-Fatal Injury Crashes per 100MVMT (annual average)

24% of Total Crashes Were Non-Fatal Injury

Non-Fatal Injury Crashes per Half Mile

- Minimum = 0
- Maximum = 343

Bicycle Crashes



0.2% Bicycle Crashes out of all Regional Crashes

0.9% Bicycle Fatal Crashes out of Total Regional Fatal Crashes

92.3% Crashes Occurred in the Urbanized Area

	% of Total Crashes	% of Fatal Crashes
Heavy Trucks	6%	11%
Pedestrians	0.7%	13%
Bicycles	0.2%	0.9%

County Crash Profiles

Overview

Total Crashes

Injury Crashes

Fatal Crashes

Crashes per 100M VMT

Pedestrian Crashes

Bicycle Crashes

Heavy Truck Crashes

Crashes & Congestion

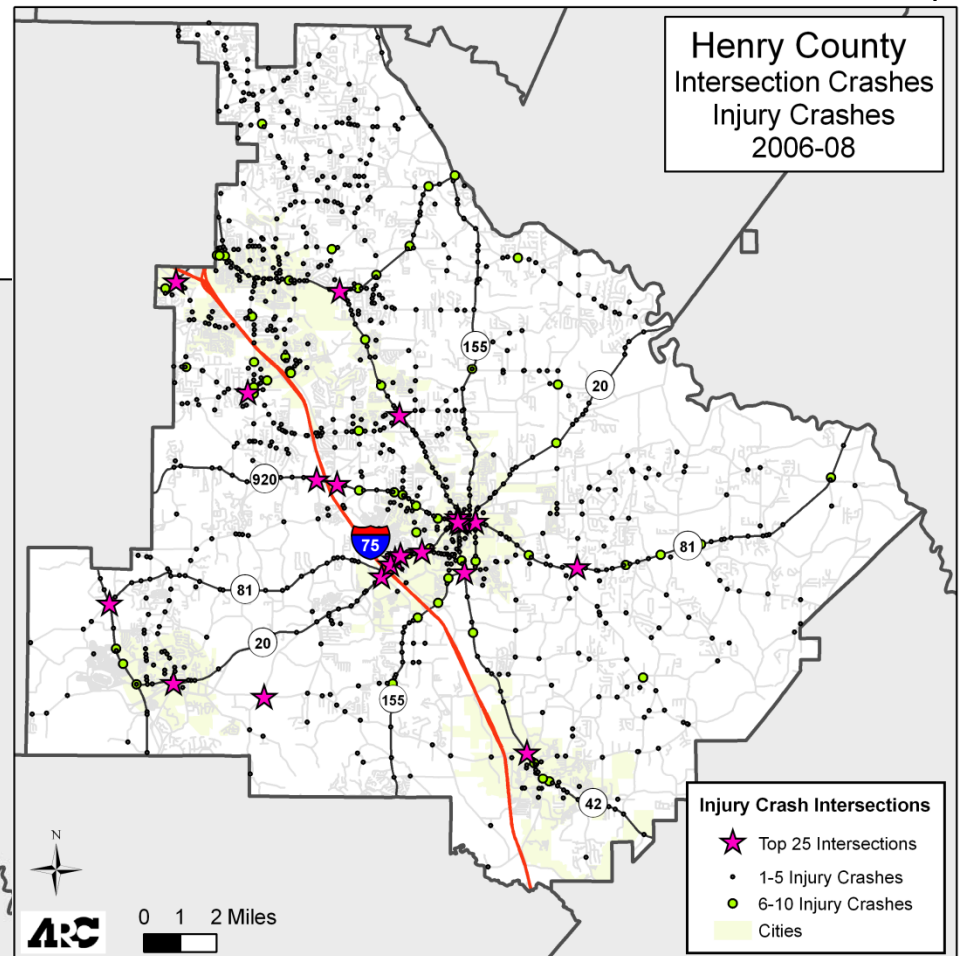
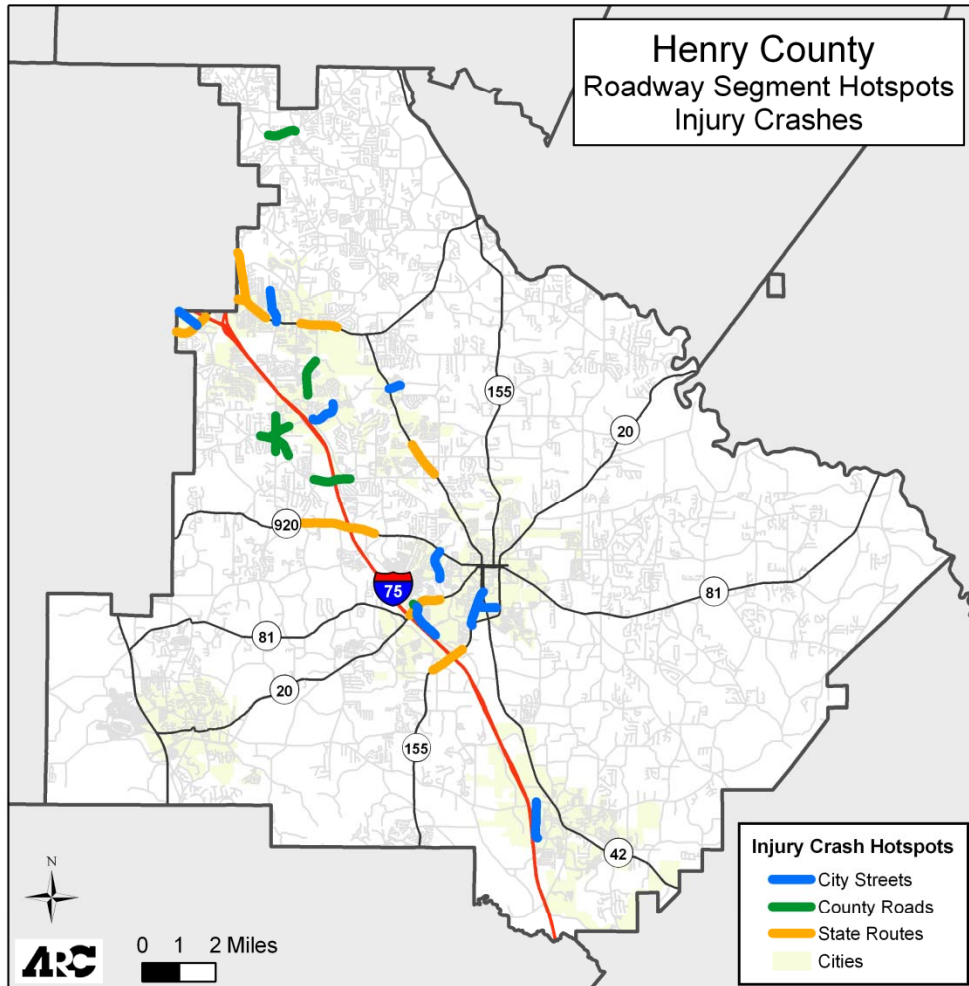
- **Maps**

- Top Roadway Segments
- Top Intersections
- By Route Type
- By Severity
- By Total Number of Crashes
- Tables & Lists Identifying Locations

- **Graphs**

- Crash Data Summaries
- Crash Rates per 100M VMT (AnnAvg 06-08)
- Number of Crashes by County (AnnAvg 06-08)
- Crash Rates by Year 2000-08
- Number of Crashes by Year 2000-08

Injury Crashes



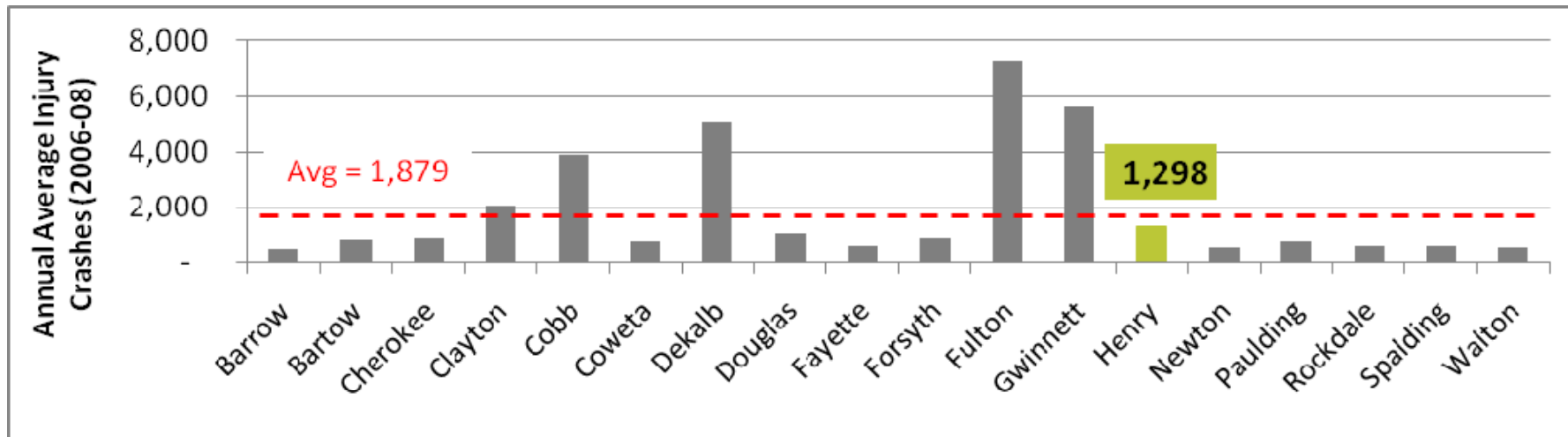
Top 10 Roadway Segments by Route Type

Top 25 High Crash Intersections

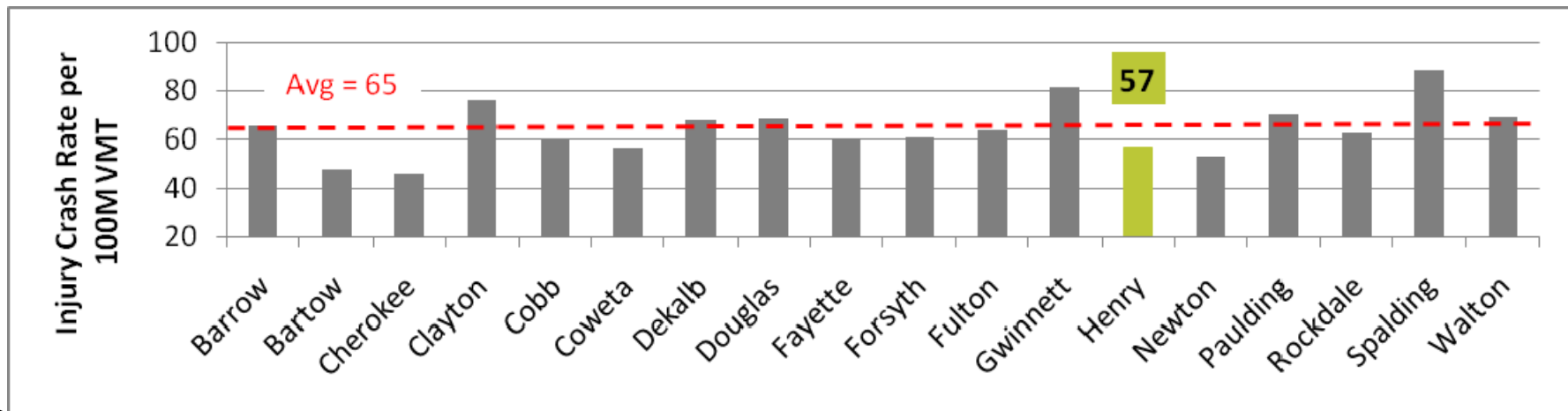
Injury Crashes – Graphs

$$\text{Crash Rate} = \frac{\# \text{ crashes/}}{[(2008 \text{ Daily VMT} * 365) / 100,000,000]}$$

Number of Injury Crashes by County (Annual Average 2006-08)

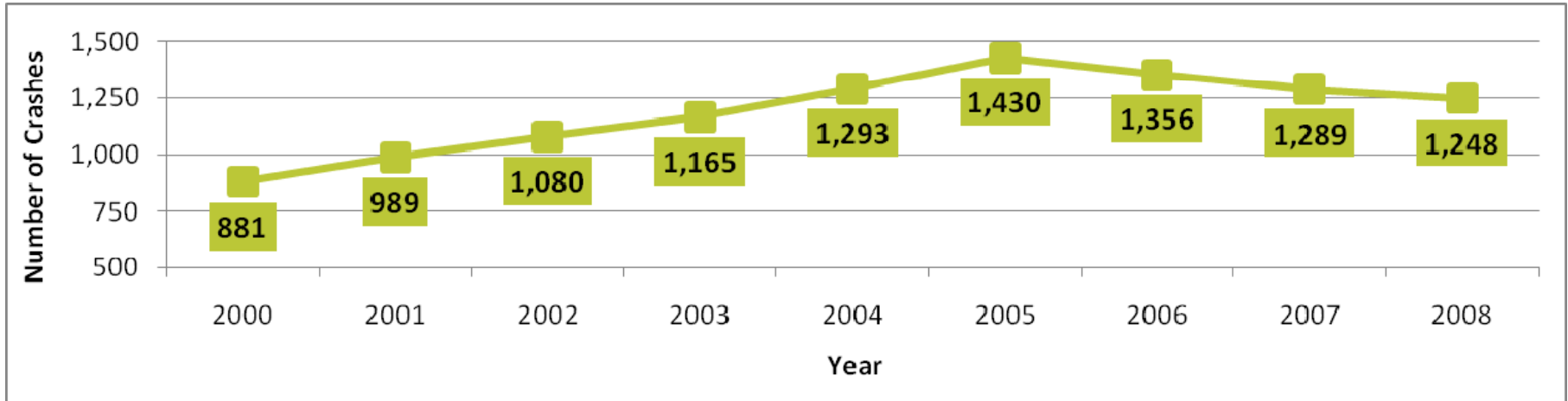


Injury Crash Rate: Injury Crashes per 100 Million Vehicle Miles Traveled (VMT) by County (Annual Average 2006-08)

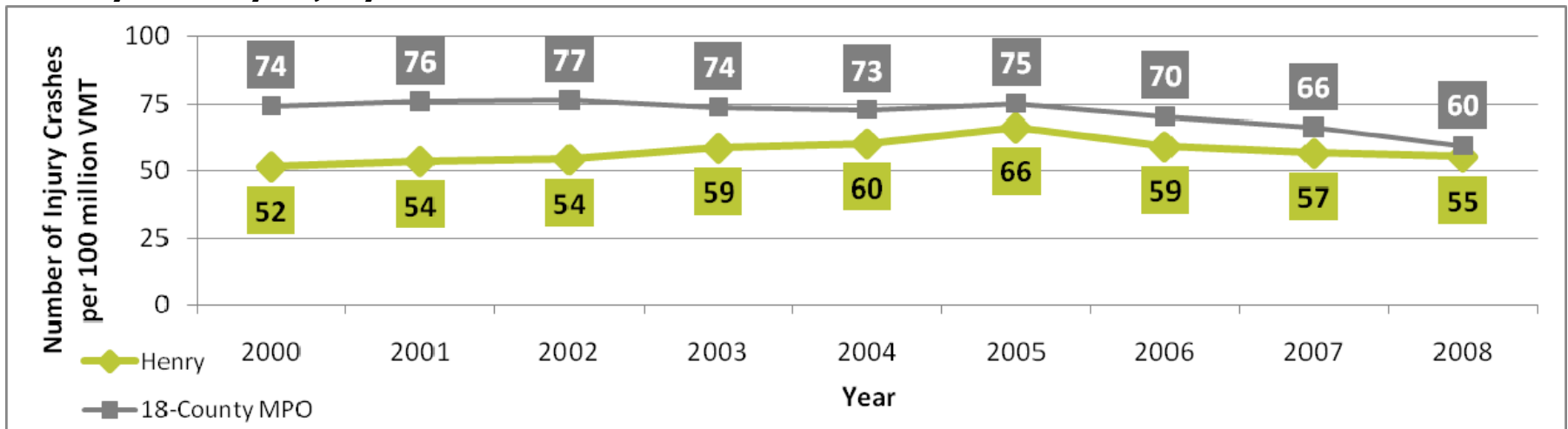


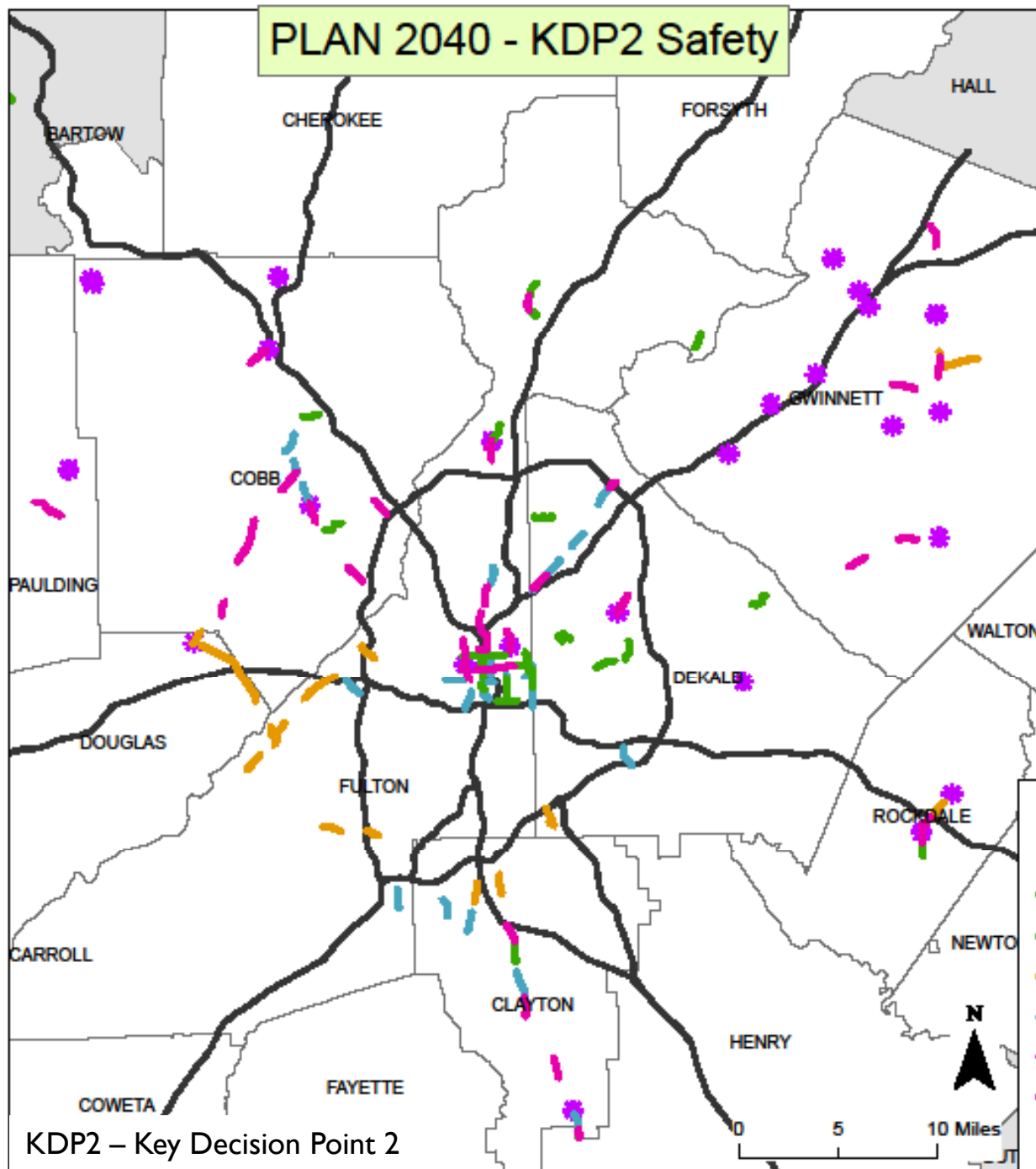
Injury Crashes – Graphs

Henry County Injury Crashes, 2000-2008



Henry County Injury Crash Rate, 2000-2008





PLAN 2040 Safety Filter

- Included Visible, Severe or Fatal Crashes (*Bike also included Complaint*)
- Projects remained eligible for evaluation if located at one of these high crash locations

Top 25 Crash Corridors by Travel Mode

- Bicycle Crash
- Bicycle Injury
- Heavy Truck
- Pedestrian
- Vehicle Only
- Vehicle w B/P
- Top Intersections_VehOnly_KSV

PLAN 2040 Transit Crash Reduction Score

- Estimate the number of crashes prevented from occurring on the roadway system as the result of a specific transit investment
- Data Items
 - Daily Passenger Miles (Source:ARC Model Output)
 - Average Crash Rate for Private Vehicle Travel
 - Average Crash Rate for Travel by Transit

Mode/Technology of Travel	Crashes per 100 Million Passenger Miles	Source
Private Vehicle	379	CARE, GDOT, ARC
Transit: Bus	36.7	NTD data for MARTA, GRTA, CCT, GCT, 2009
Transit: Heavy Rail	0.3	NTD data for MARTA, 2009
Transit: Light Rail	32.3	NTS National Average, 2007
Transit: Commuter Rail	1.1	NTS National Average, 2007

$$\text{Crash Reduction} = \frac{\text{Project Daily Pax Miles} * 260 \text{ weekdays in a year}}{100 \text{ million constant}} * \left(\text{Crash Rate Private Vehicle} - \text{Crash Rate Transit by Transit Technology} \right)$$

PLAN 2040 Highway Incident Analysis

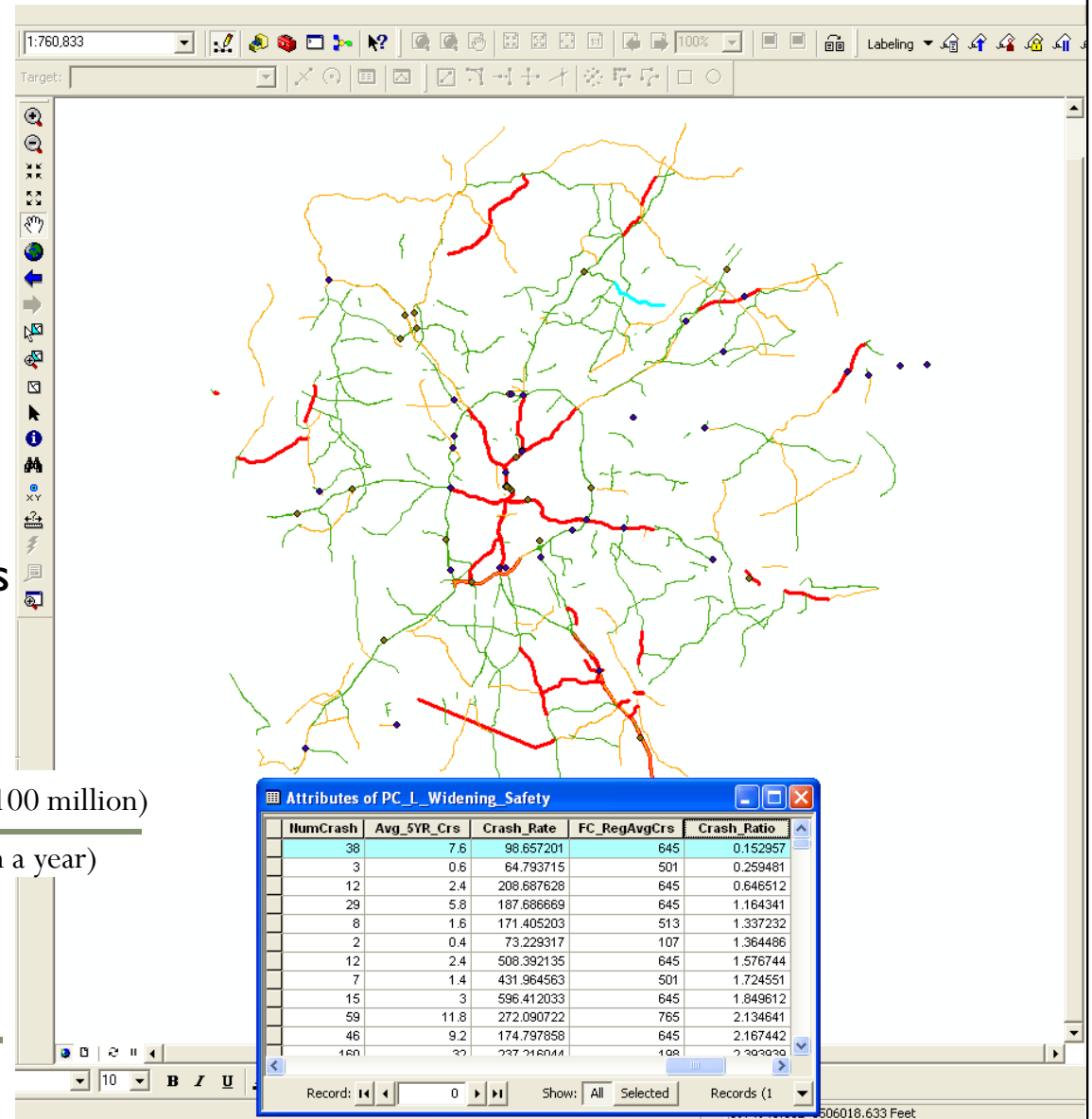
- Calculate Average Regional Crash Rate by Functional Classification
- Calculate Crash Rate per Project
 - Model output
 - VMT & Functional Class
- Spatial join crashes to projects

Crash Rate:

$$\text{Crash Rate} = \frac{(\text{5-Year Crash Annual Avg per Project}) * (100 \text{ million})}{(\text{VMT per Project}) * (260 \text{ weekdays in a year})}$$

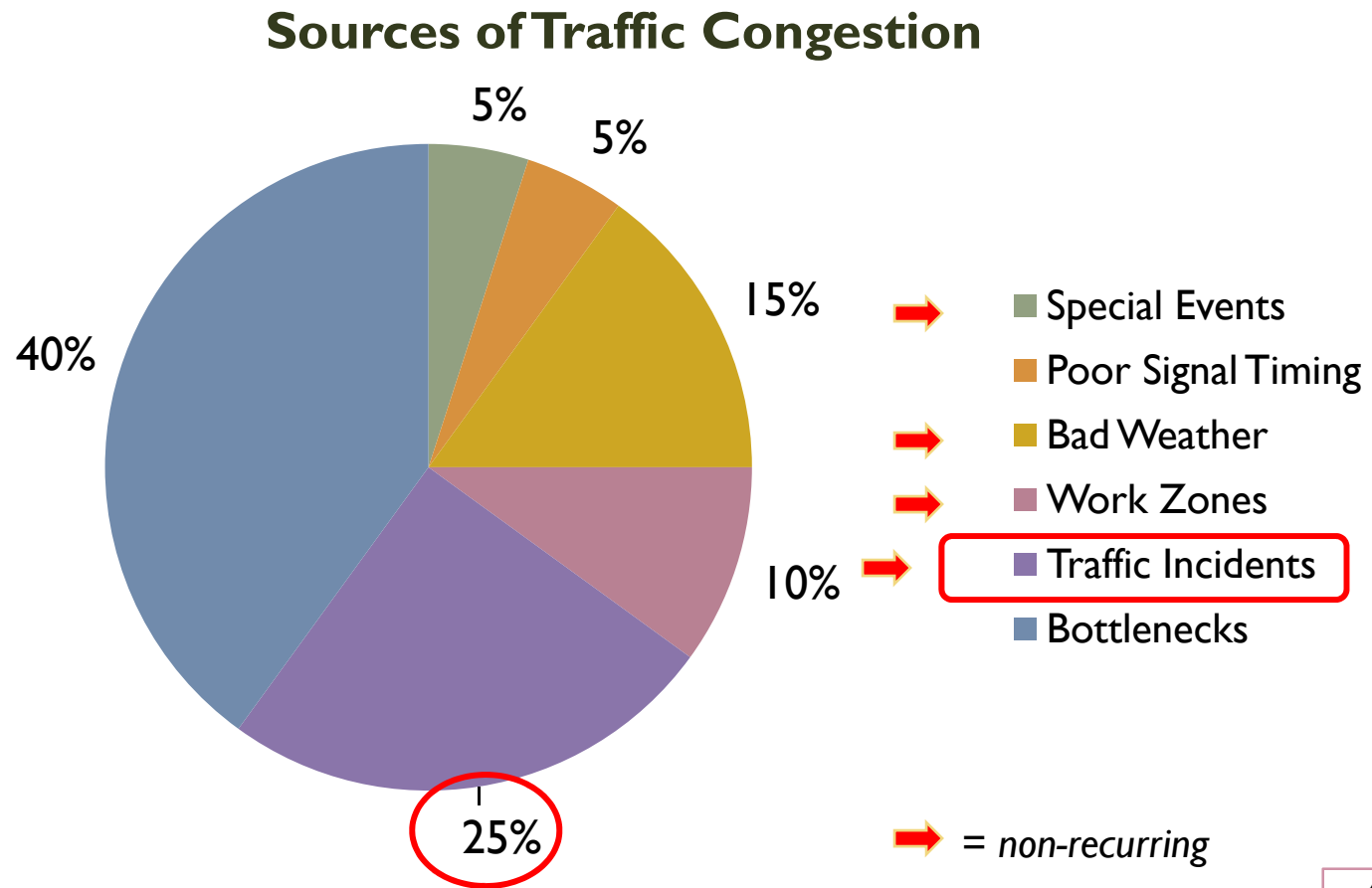
Crash Ratio:

$$\text{Crash Ratio} = \frac{\text{Project Crash Rate}}{\text{Regional Crash Rate by Func. Class}}$$



Congestion

- Over 50% of all Traffic Congestion is Caused by Non-recurring Incidents

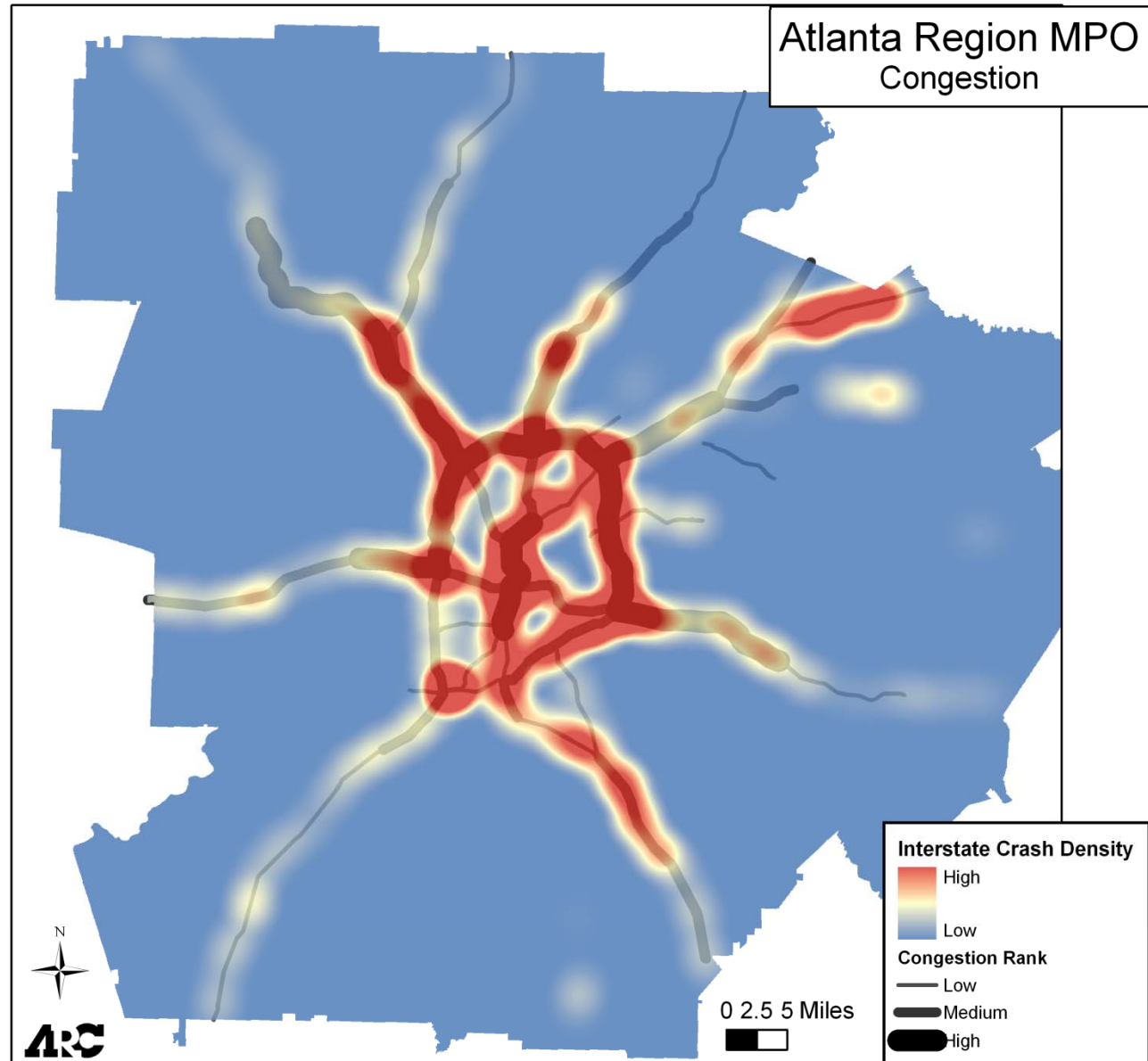


*Source: http://www.fhwa.dot.gov/congestion/describing_problem.htm, <http://www.dot.state.mn.us/tmc/incmgmt.html>



Crashes and Congestion

Crash Density
laid over CMP
Network
'Most Congested
Facilities'



Examples of Various Crash Analyses Conducted



Livable Centers Initiative (LCI)

Average Number of Annual Crashes in LCI Areas

➤ Before and After Establishing an LCI Area

	Total Crashes		Crashes involving Peds		Crashes involving Bikes	
	Before	After	Before	After	Before	After
Average # of Crashes in an LCI Area	443	419	4.13	3.28	0.94	0.78
Percent Change	-6%		-21%		-17%	

➤ Before and After Construction of an LCI Transportation Project

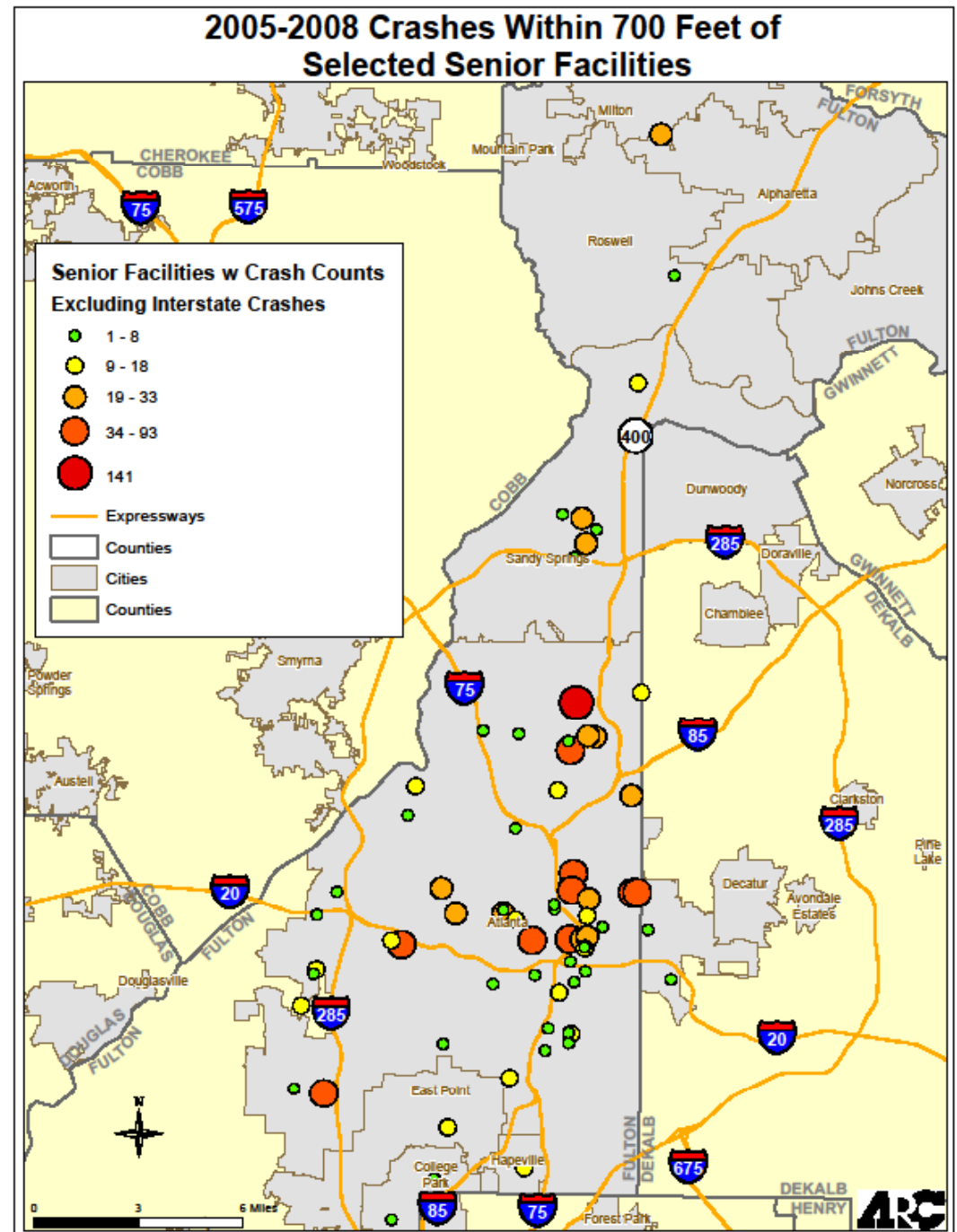
	Total Crashes		Crashes involving Peds		Crashes involving Bikes	
	Before	After	Before	After	Before	After
Average # of Crashes in an LCI Area with a Completed Transportation Project	512	469	5.14	4.11	1.28	1.03
Percent Change	-8%		-20%		-19%	

Note: The LCI program was established in 1999, first transportation project was completed in 2000. Since inception of the LCI program, 102 communities across the region have been designated as an LCI area.

Atlanta Senior Zones

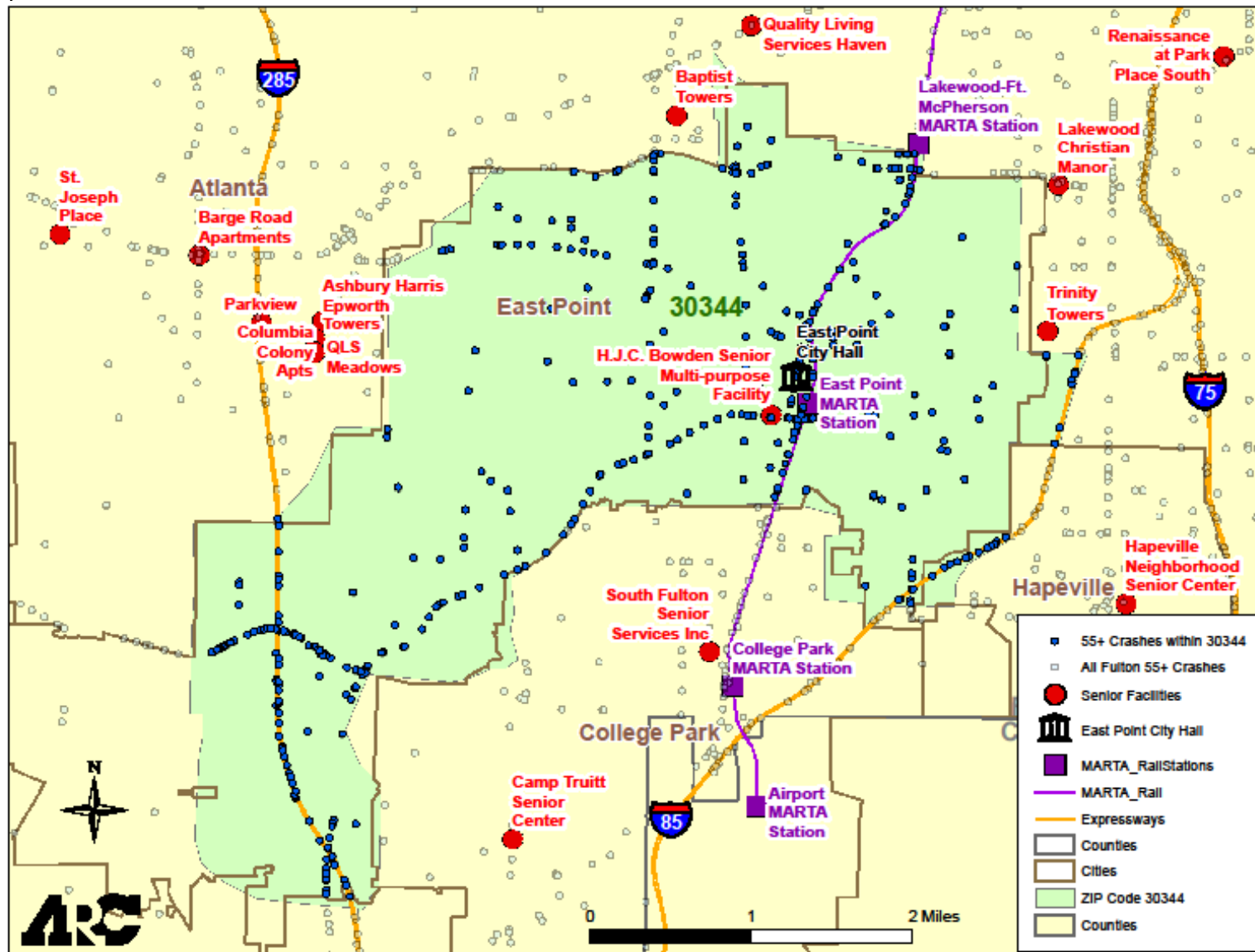
with ARC Aging Division

- Pedestrian and vehicle crash data for the 64 senior zone facilities
- Sent to the City of Atlanta Public Works staff responsible for implementing the Senior Zone guidelines
- Tool for prioritizing implementation of pedestrian safety improvements where the need is greatest according to the data
- Help direct limited funds



Lifelong Communities – East Point

with ARC Aging Division

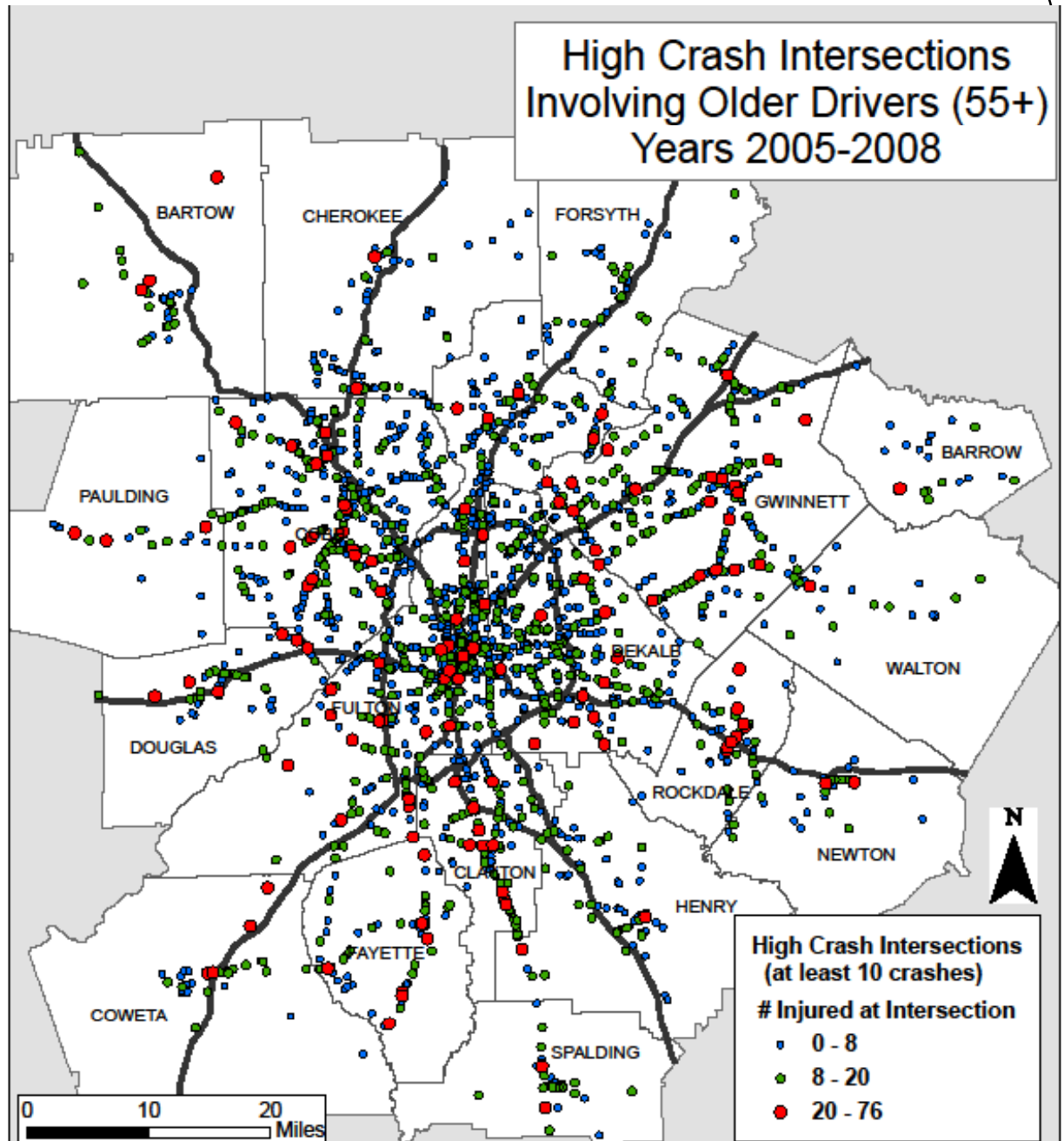


- Crash data for the East Point NORC
- Coordination with East Point Public Works department
- Pedestrian safety improvements
- Prep to submit an application for 2010 New Freedom funds in 2010.

Older Adult High Crash Intersections

- Pilot Intervention: Older Driver Task Force (ODTF)
- “ODTF goal is to identify effective roadway treatments in specific senior aged communities.”
- Collaboration with GDOT engineers, assessing environmental design features aimed at maintaining the safety of older adults who drive, walk, or take alternative transportation

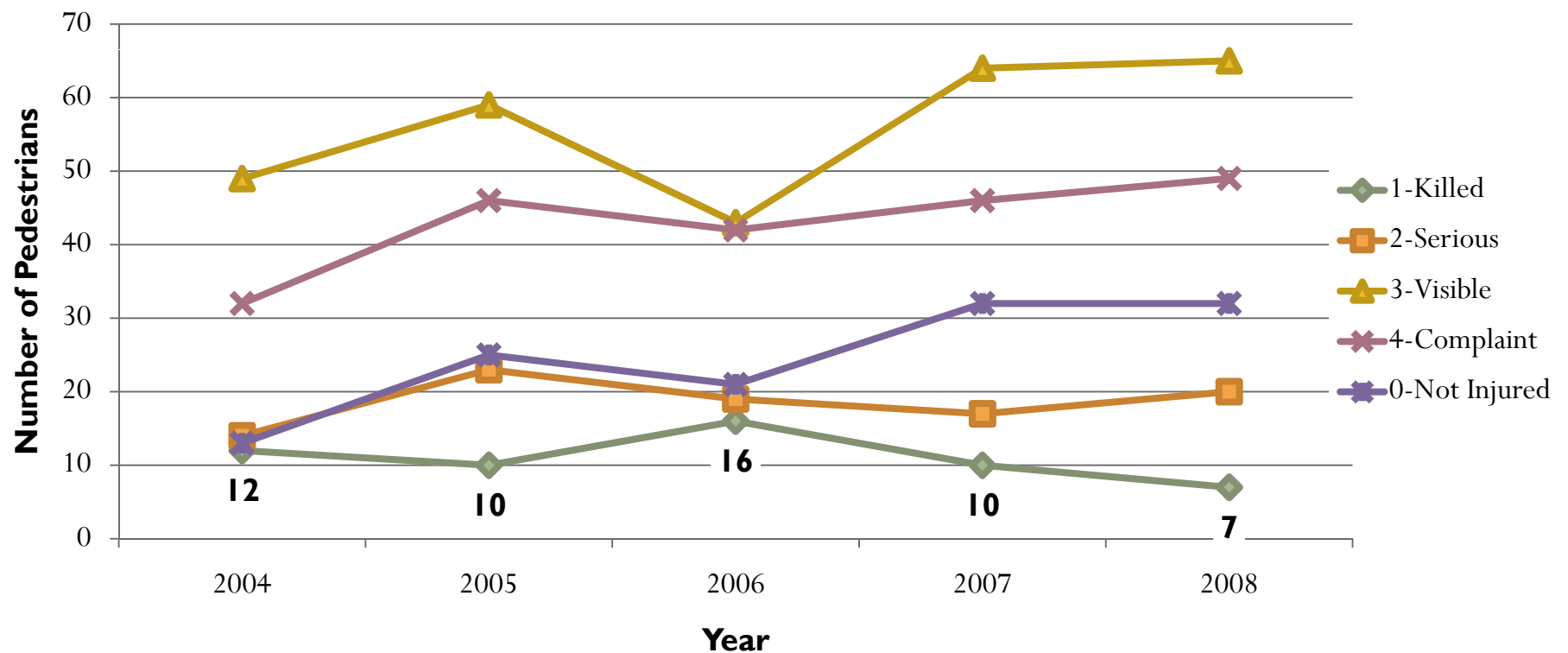
Quote from ODTF Recommendations Report



Safe Kids Cobb County

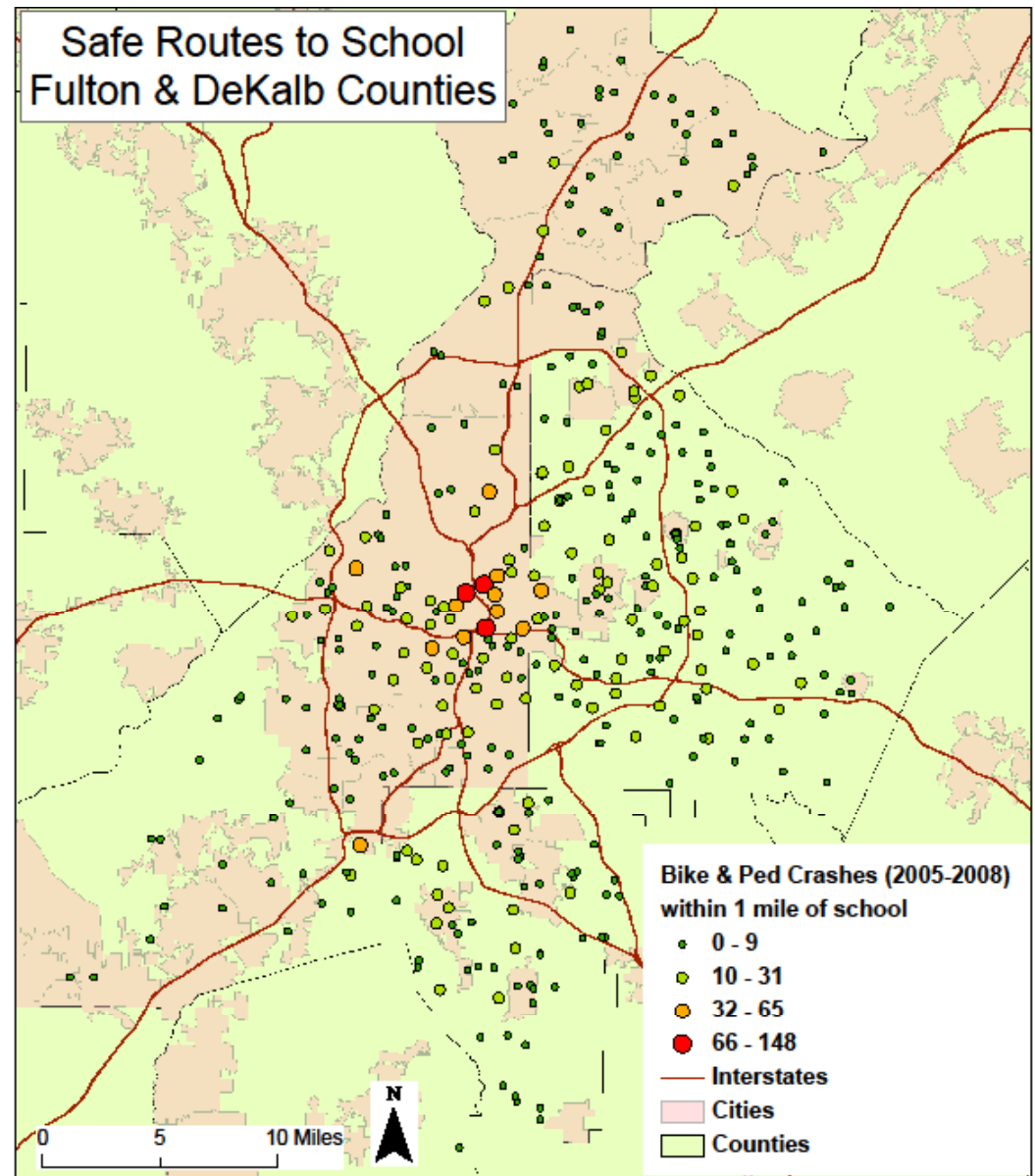
- Contacted ARC for Pedestrian crash statistics

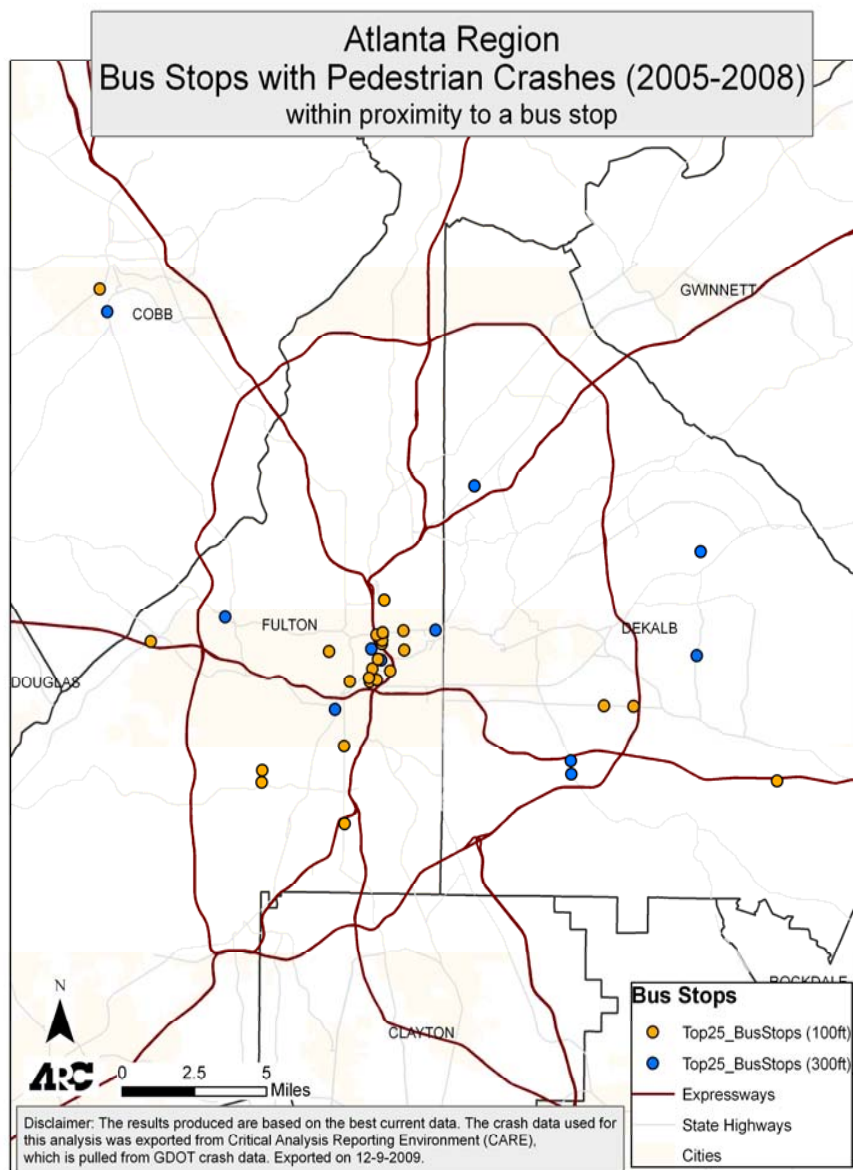
Cobb County - # of Pedestrians Injured by Injury Type



Safe Routes to School (SRTS)

- Received request from SRTS coordinator for schools within their counties that experienced high number of pedestrian and bike crashes
- Target schools in areas of concern





Pedestrian Crashes at Bus Stops

- ARC Bicycle and Pedestrian Task Force
- PEDS (Pedestrians Educating Drivers on Safety)
 - Analyzing the data further for environmental justice areas/corridors



Bus Stop (300 ft)	Service Provider	Direction of Travel	# Pedestrian Crashes	# Persons Injured	# Persons Killed
CLEVELAND AVE SW@METROPOLITAN PKY S	MARTA	Southbound	13	12	0
COLUMBIA DR@GLENWOOD RD	MARTA	Northbound	10	10	0
JESSE HILL JR DR SE@EDGEWOOD AVE	MARTA	Southbound	9	7	0
BUFORD HWY@CLIFF VALLEY WAY	MARTA	Southbound	9	11	0
NORTH AVE NW@SPRING ST NW	MARTA	Southbound	9	8	0



HSIP Project Selection

- Evaluated Pedestrian & Bicycle High Crash Corridors with
 - Serious & Fatal Crashes, Fatalities
 - Nearby Schools and Community Facilities
 - Minority, Poverty Areas
 - Older Adult Age 55+ Populations
 - Pedestrian Crash/ Bus Stop Analysis Results

Highway Safety Improvement Program (HSIP)

GLENWOOD ROAD, DEKALB COUNTY | Glendale Rd to I-285 (1.8 miles)

Severe Injury and Fatal Injury Crashes for years 2000 to 2008

Crash Hotspots: Corridors

Pedestrian High Crash Corridor, Years 2000-08				
DeKalb County: Glenwood Rd from Glendale Rd to I-285				
Total Crashes	Number of Serious Injury and Fatal Crashes	Number of Fatal Crashes	Number of Serious Injuries	Number Persons Killed
55	14	4	10	4

Note: Total Crashes includes all injury type crashes, fatal crashes and PDO crashes. Number of Injury and Fatal Crashes includes as stated, therefore pulling out the more severe crash types.

Schools/Community Facilities:

A New World Academy – on Glenwood Rd

DeKalb Fire Dept #7 – on Glenwood Rd

Wee Wisdom Nursery & Kindergarten – on Columbia Dr, 0.5 miles from Glenwood Rd

Columbia High School – on Columbia Dr, 0.6 miles from Glenwood Rd

Wadsworth Elementary School – on Green Forrest Dr, 0.75 miles from Glenwood Rd

Snapfinger Elementary School - on Snapfinger Rd, 0.5 miles from Glenwood Rd

Bus Stops:

Glenwood Rd at...			
MARTA	Columbia Dr (Rte 96, NB)	Austin Dr (Rte 107, WB)	Hollyhock Terr (Rte 107, EB)
PedCr300	10	4	2
PedInj300	10	6	2
PedFat300	0	1	0
PedCr100	10	1	2
PedInj100	10	1	2
PedFat100	0	0	0

Note: Cr=Crash, Inj=Injury, Fat=Fatality. The 100 and 300 refer to crashes with 100 feet and 300 feet of the bus stop.

Note: Bus stops refer to high crash bus stop locations where there was 1 fatality or at least 2 pedestrian injury crashes. This does not include every bus stop in the region.

Demography:

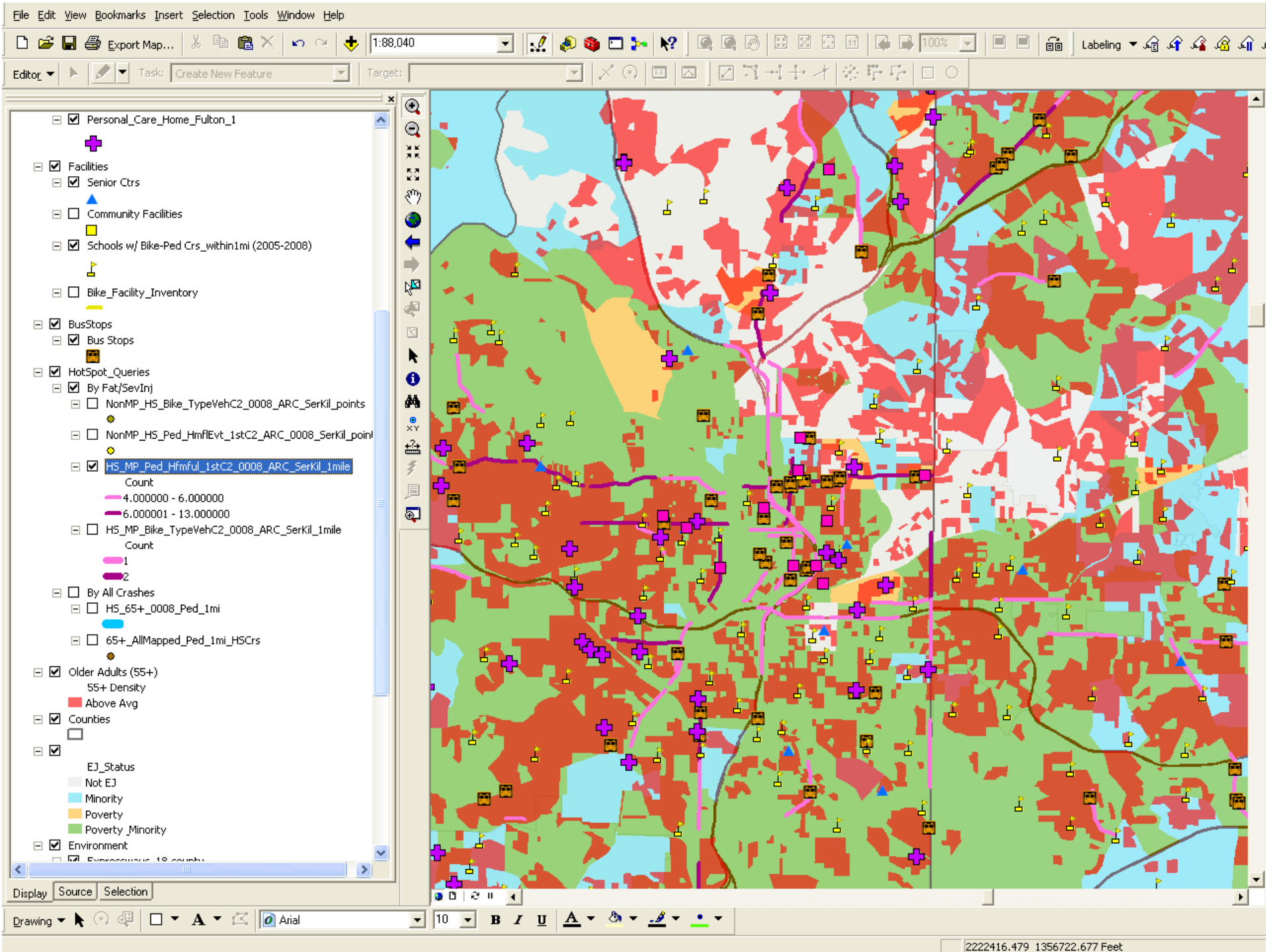
<input checked="" type="checkbox"/>	Minority – at least 32.9% African-American, 6% Hispanic, and/or 2.9% Asian
<input checked="" type="checkbox"/>	Poverty – at least 11% in Poverty
<input checked="" type="checkbox"/>	Age 55+ - above regional average density of older adults age 55-plus → almost throughout entire corridor

Note: Environmental Justice elements were considered when choosing high pedestrian crash locations. The U.S. Census' definition of environmental justice groups includes those minority groups stated in the above table. The average minority percent for the Atlanta 18-county region was calculated by block group, and then block groups with higher percent than the region average were identified. Therefore, if Minority has a checkmark, it means that block group has a higher than regional average of minority population. Poverty was calculated this same way using the regional average and identifying those block groups with higher than regional average population in poverty. Age 55+ was calculated by age per acre, identifying those block groups with higher than regional average older adult densities.

Contact: Talya Trudell, 404.463.3268

HSIP Recommendation

Atlanta Regional Commission, 7/7/2010

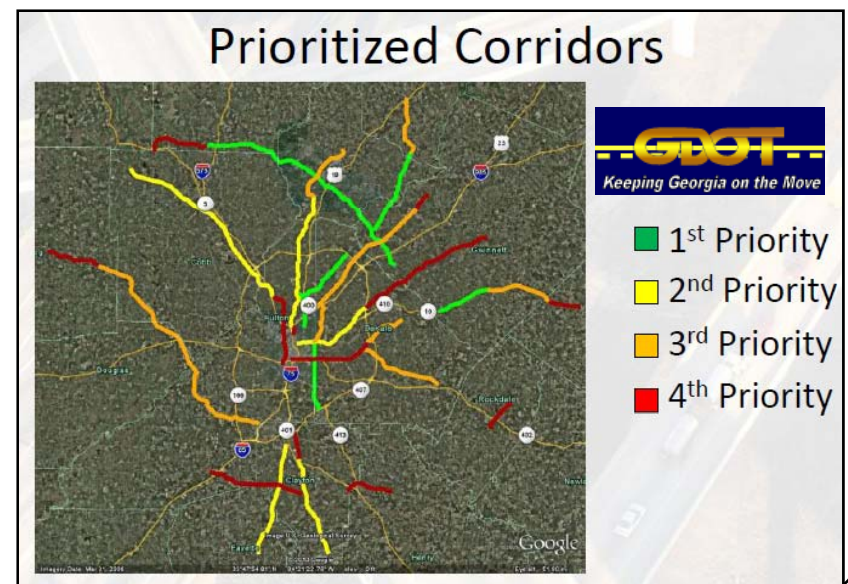


Regional Traffic Operations Program (RTOP)

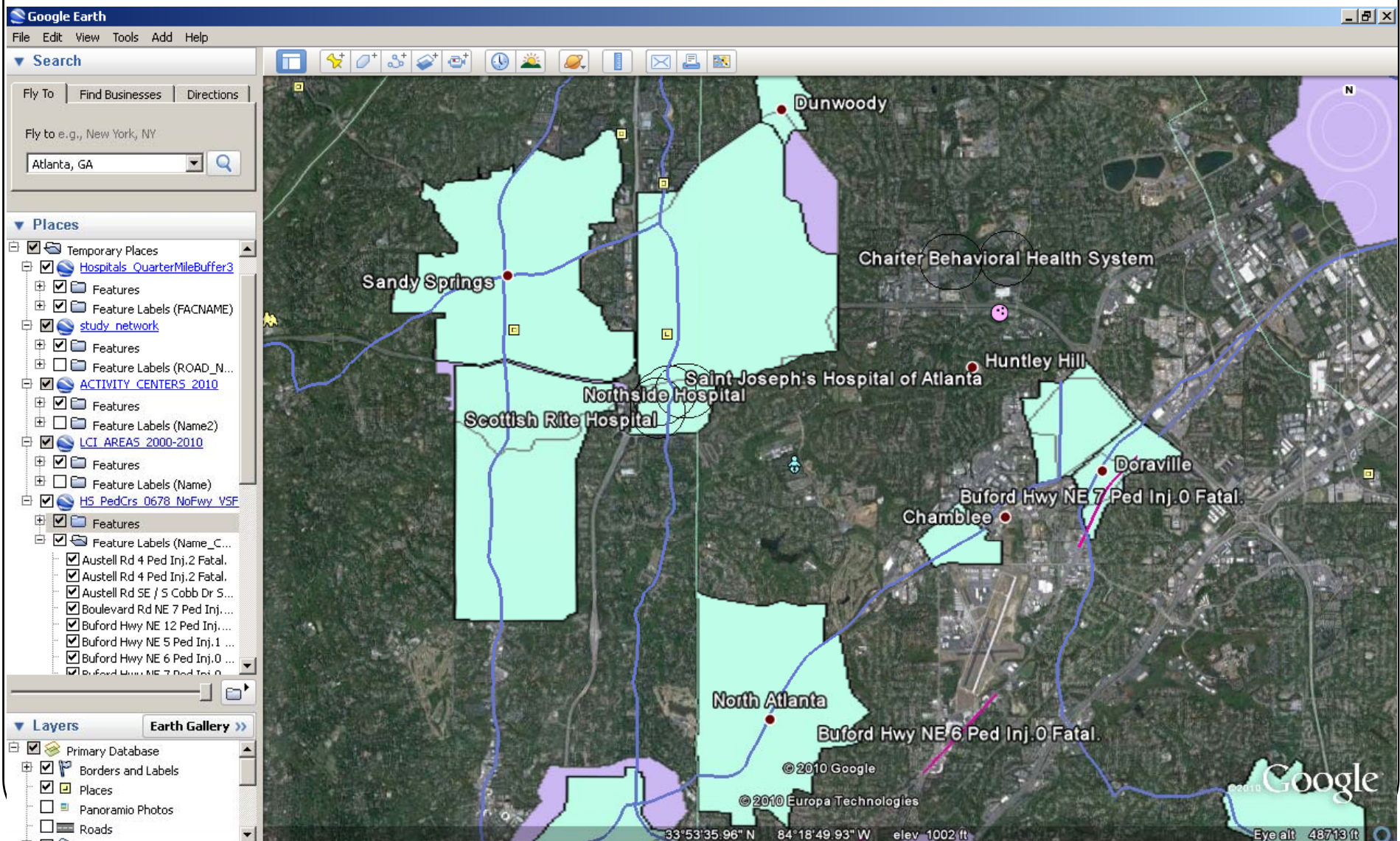
- ARC Bike & Ped Task Force Areas of Concern:
 - LCI areas, ARC Bike/Ped Network Plan, Buffers Around Hospitals, Pedestrian “Hot Spot” Crash Corridors Based on 2006-2008 Data, Senior Zones, UGPM Activity Centers
- Suggested
 - avoid long signal times that would encourage peds to jaywalk
 - upgrade loop detectors to detect bicyclists
 - location of control boxes and signal masts
 - refuge islands for larger intersections
 - leading or lagging pedestrian signals
 - 2009 MUTCD Ped crossing speed
 - add signage
- Specific notes on 12 corridors

RTOP Mission: To increase travel throughput by minimizing congestion and reducing delays along regional commuter corridors through improved signal operations.

UGPM – Urban Growth Policy Map developed by ARC
MUTCD – Manual on Uniform Traffic Control Devices (FHWA)



RTOP – Google Earth – Sharing Data



Crash Data Resources

- Georgia Electronic Accident Reporting System (GEARS)
 - GDOT Electronic Crash Reporting
 - <https://gearsportal.com/Pages/Public/Home.aspx>
 - http://openportalsolutions.com/w_i_gears.html
 - <http://www.buycrash.com/>
- Online Analytical Statistical Information System (OASIS)
 - Office of Health Indicators for Planning (OHIP)
 - <http://oasis.state.ga.us/oasis/index.aspx>

GEARS Home - Windows Internet Explorer provided by ARC

https://gearsportal.com/Pages/Public/Home.aspx

Office of Health Information and Policy

Search

Share

Sidewiki

Bookmarks

Check

Translate

Crash Data

GEARS Home

GEARS
Georgia Electronic Accident Reporting System

Home

This website is developed and maintained by Open Portal Solutions, Inc. on behalf of the Georgia Department of Transportation to serve as a portal into the State of Georgia's repository for traffic accident reports completed by Georgia law enforcement agencies.

The integrity of the GEARS data is dependent upon both the accuracy and frequency with which the data is updated and user's interpretation.

Therefore, no warranty, either expressed or implied, is given to the accuracy, completeness, reliability, suitability for any particular purpose of the information contained in GEARS.

Restricted Access!

The GEARS online services provided by Open Portal Solutions, Inc. are for the exclusive use of law enforcement, approved agencies, and other authorized users in the state of Georgia. User agreements are required and unauthorized access to this site is prohibited.

Home

Find a Document

Collision Data

Request Report/Extract

View Generated Requests

GDOT
Georgia Department of Transportation

Georgia Division of Public Health | OASIS - Windows Internet Explorer provided by A

http://oasis.state.ga.us/oasis/index.aspx

Office of Health Information and Policy

Search

Share

Crash Data

Georgia Division of Public Health

OASIS
Online Analytical Statistical Information System
Web-Based Tools for Public Health and Public Policy Data Analysis

OASIS Web Query Tool
Create tables of health statistics.
• Mortality/Morbidity • Infant Deaths
• Maternal/Child Health • Population • Emergency Room Visits

OASIS Mapping Tool
Make maps of health indicators at the county or census tract level.
• Mortality/Morbidity • Infant Deaths
• Maternal/Child Health • Cancer Incidence

OASIS Animated Charting Tool
Animated county level population charts.
• Population Pyramids

OASIS Arboviral Surveillance Tool
Current arbovirus information (e.g. West Nile Virus), updated monthly.
• Dead Bird (Avian) • Human Infection
• Veterinary • Mosquito Pools

OASIS YRBS/BRFSS Query Tool
Make tables of risk behavior survey data.
• Youth Risk Behavior Survey
• Behavioral Risk Factor Surveillance Survey

Demographic Profiles
Neighborhood-level socio-economic status and health indicators.
• Demographic Profiles • Life Stage Mortality
• Leading Causes of Death • Vital Statistics Profiles

Geographic Information Systems (GIS)
Free GIS software and over 90 layers of spatial data.
• ArcReader • Spatial Data
• Geocoding • GIS at DPH

GEARS Goes Live! 2/9/2010

Access to CARE

Using CARE:

Critical Analysis Reporting Environment

- Created and Housed at Center for Advanced Public Safety – University of Alabama
 - Download CARE software and Georgia Crash Data: FREE! <http://caps.ua.edu/downloads/downloads.aspx>
- Six tables of information available
 - Commercial Vehicle Data, Crash Data, Passenger Data, Pedestrian Data, Road Data, Unit Data
- Years 2000-2009 available



How to Export CARE Crash Data to Create Your Own Database

- Install CARE (make sure you do this before you download the data)
- Download GA Crash Data
- Open CARE
- Decide which of the six tables you want to export the data from
- Figure out what Geography and Years you want in your database
 - This will be your filter you create described on following slide

- Click Filters – **Create/Modify Filter**
- Create Filter for Geography (i.e. Carroll County) and Year (i.e. 2000-2009)
- Example to create filter:
 - ‘County’ = ‘Carroll’
 - Click ‘County’ in the left column under variable
 - Click ‘Carroll’ in the right column under value
 - ‘Year’ = 2000-2009
 - Click ‘Year’ in left then ‘2000’, then ‘2001’to....’2008’
 - Click ‘OR CLAUSE’ to the right of the screen and it

pops up in the workspace you’ve been working in

- Take all the years and pull them into the OR CLAUSE
- Click ‘AND CLAUSE’ again pulls up in workspace
 - Pull ‘County=Carroll’ into the ‘AND CLAUSE’
 - Then pull ‘OR CLAUSE’ into the ‘AND CLAUSE’ (if you just pull the one line that says ‘OR CLAUSE’ it should pull all the years with it)
- At the bottom of the screen give your filter a name, i.e. Carroll_00-08
 - Make sure the top most line “[AND Clause]” is highlighted when naming the filter.. like in pic below

The screenshot shows the 'CARE 9.1.1.3 - [Filter Editor]' window. The 'Base Data Source' is set to '2000-2008 Georgia Crash Data'. The 'Default Filter' is 'Carroll_00-08'. The 'Filter Logic' section shows a tree structure in the workspace:

- [AND Clause]
 - 2000-2008 Georgia Crash Data:County = Carroll
 - AND (OR Clause)
 - 2000-2008 Georgia Crash Data:Year = 2000
 - OR 2000-2008 Georgia Crash Data:Year = 2001
 - OR 2000-2008 Georgia Crash Data:Year = 2002
 - OR 2000-2008 Georgia Crash Data:Year = 2003
 - OR 2000-2008 Georgia Crash Data:Year = 2004
 - OR 2000-2008 Georgia Crash Data:Year = 2005
 - OR 2000-2008 Georgia Crash Data:Year = 2006
 - OR 2000-2008 Georgia Crash Data:Year = 2007
 - OR 2000-2008 Georgia Crash Data:Year = 2008

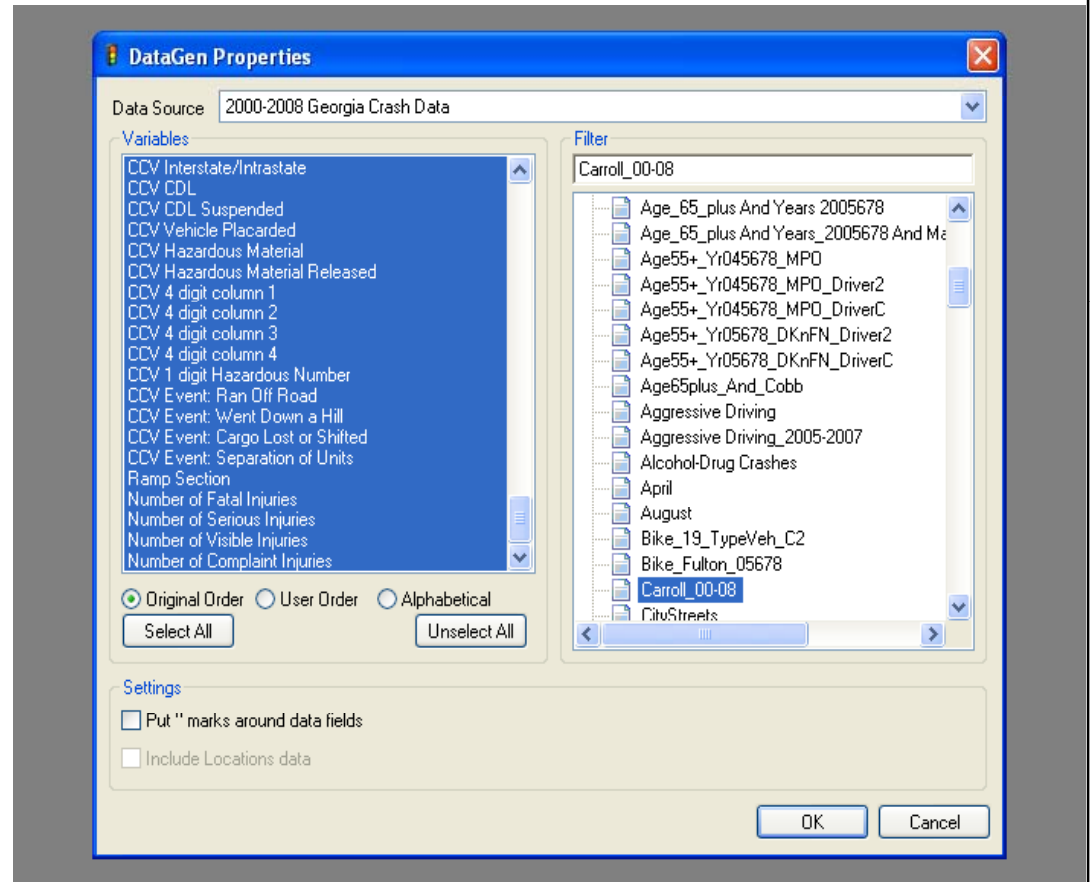
The 'Comparisons' section shows a table with variables and values:

Variable	Type	Value
County	=	2002
City	#	2003
Month	>	2004
Date of Month	>	2005
Year	>	2006
Day of the Week	<	2007
Time of Day	<	2008
Week of the Year	<	

The 'Workspace' section shows the filter logic tree. The 'View' section shows 'CARE 8 - 9' and 'CARE Classic'. The 'Insert' section has buttons for '(AND Clause)', '(OR Clause)', and '(NOT Clause)'. The 'Delete' section has buttons for 'Delete Selected' and 'Delete All'.

Export excel spreadsheet for all variables

- Click File – Export Data (Data Gen)
- In DataGen Properties Box click ‘Select All’ on the left and click your filter (i.e. ‘Carroll_00-08’) on right
- Choose to save as CSV, then resave as excel

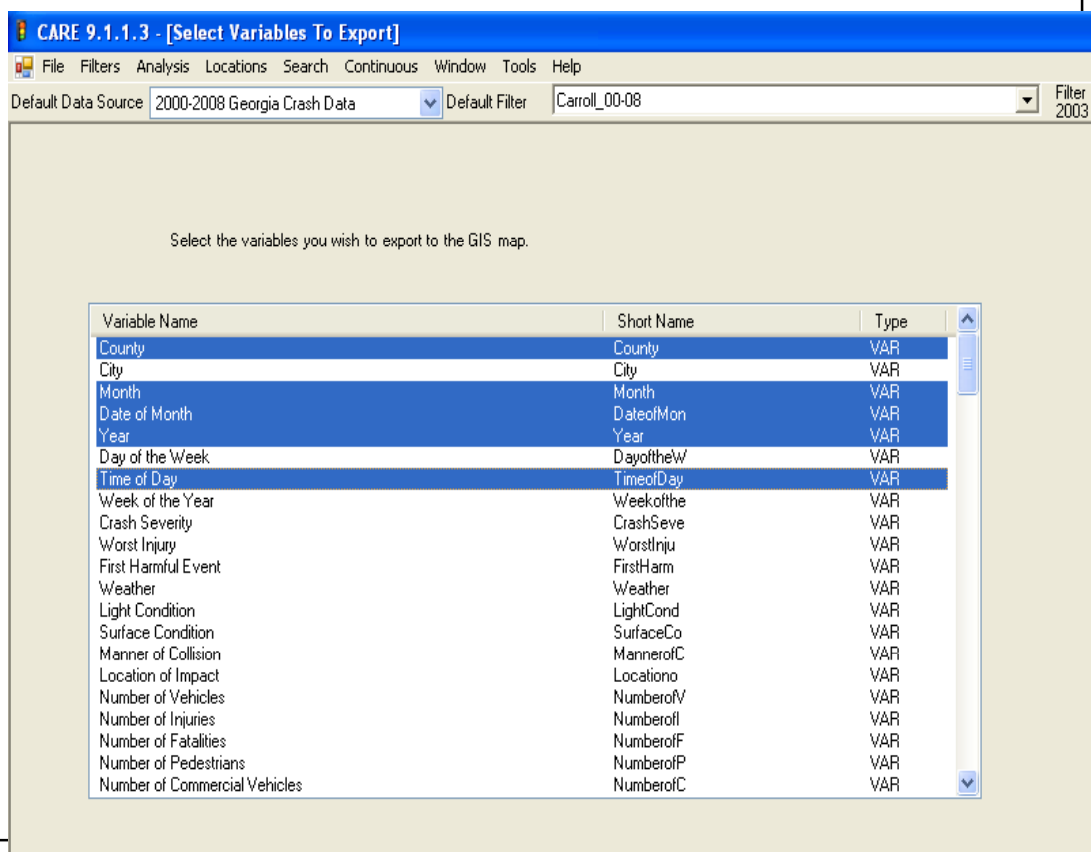


Export GIS points which will but used to join to the excel variables

- Make sure you have the table (of the six tables of information) chosen as 'Default Data Source' (i.e. 2000-2009 Crash Data)
- Click Locations – GIS Map
- Click Point Layers – Individual Events Layer – Next

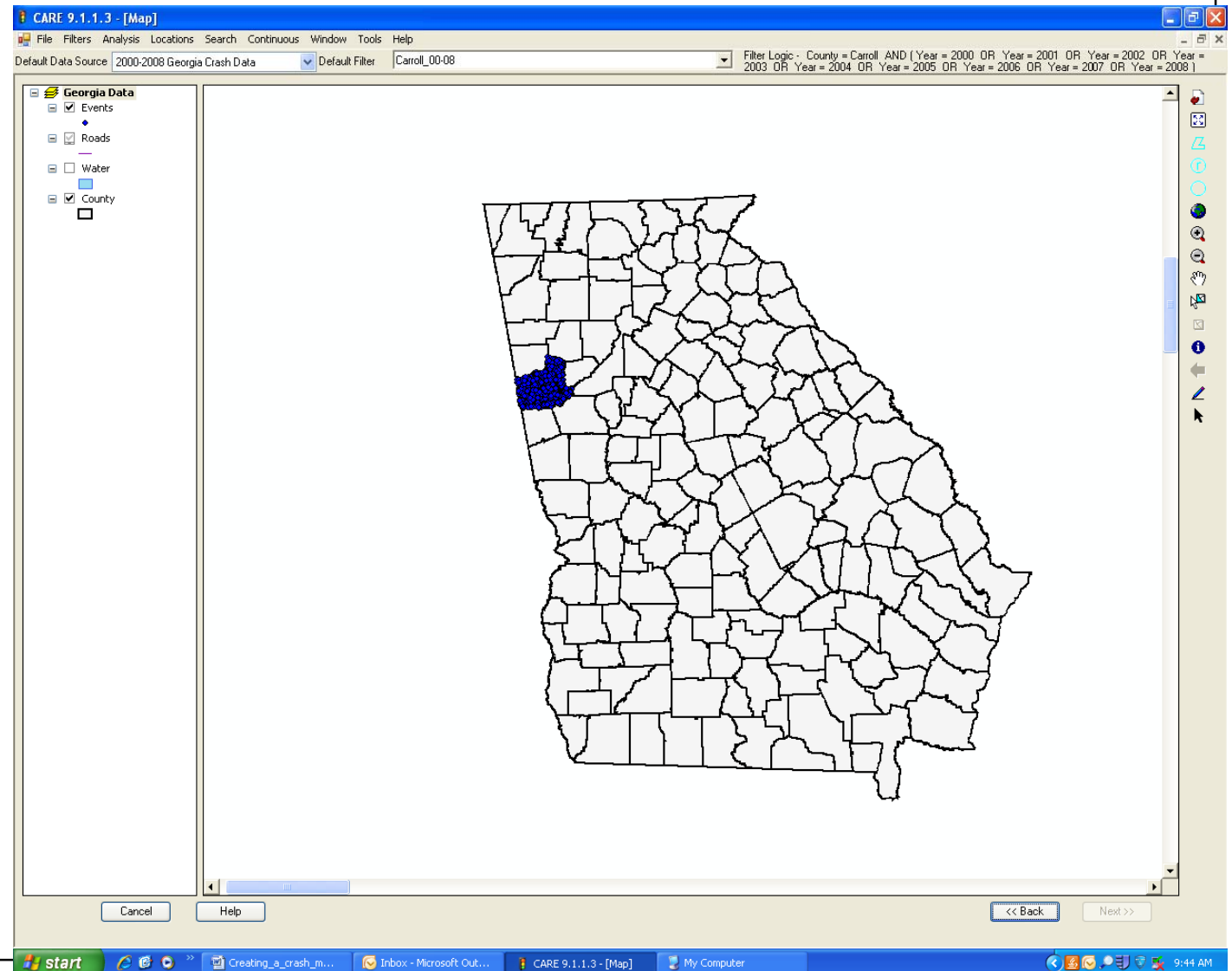
Note: Exporting city is not all that valuable as that variable tends to be inaccurate.

- Select your Filter (i.e. Carroll_00-08)
 - You don't really need to name the Events Layer, you'll name it when you export it as a shapefile
 - Click Next
- Select the variables you wish to export to the GIS map
 - CARE tends to crash a lot. If it does Exit, then reopen. If you try to export a lot of variables on this screen with the GIS export, CARE will most likely crash. The variables are not needed at this point because these points will be joined to the excel spreadsheet that has all the variables that was exported in previous step. Choose the variables below to check dates and times to ensure the joining of the points match correctly to the variables in the spreadsheet.
 - County, Month, Date of Month, Year, Time of Day
- Click Next



Export as a Shapefile

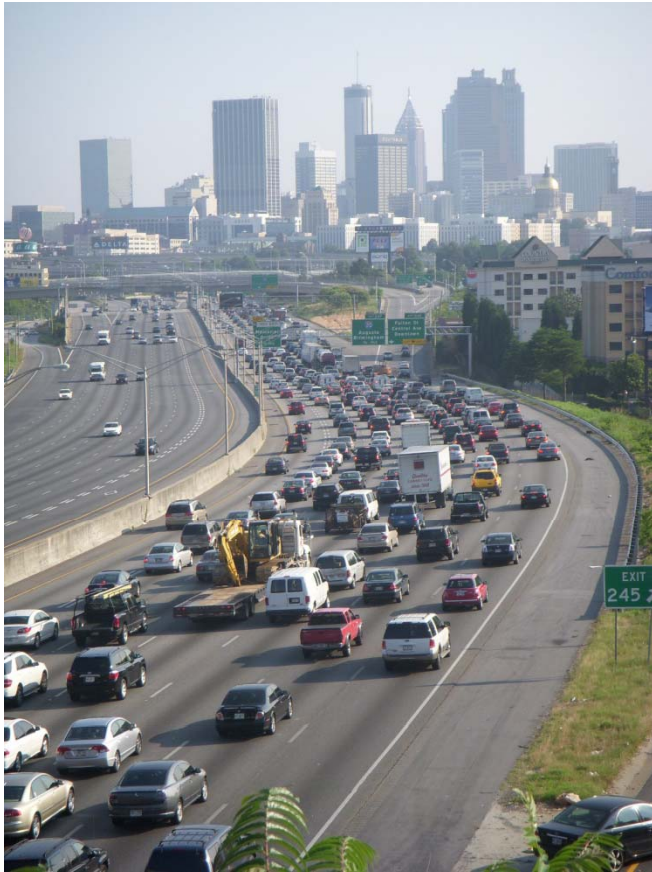
- Right click on the Event layer
- Click Export to Shapefile
- Name as you like



Join excel to shapefile

- Now you have an excel spreadsheet and a shapefile (i.e. for Carroll County, years 2000-08)
- The Crash ID (excel) matches the Event_ID (GIS) however, not exactly. You need to add zeros in front of the Crash ID to match the Event_ID.
 - Open excel and make sure there are not spaces in the field titles or tab name, use underscore. Add new field called “Event_ID” to fill in later
 - Import Excel table with variables into a GeoDB (table single) or convert it to a DBF so that it can be edited in GIS, add table to ArcMap
 - Open Attribute Table - Use the field calculator to populate the new Event_ID field using this expression: “00000” & [Crash_ID] – what this does is add 5 zeros to the left of the Crash ID number. Crash ID should have a total of 8 digits.
 - Finally, recalculate this same new Event_ID field with just the 8 rightmost characters from that field, using this expression: “Right ([Event_ID], 8)” – this will create an 8 digit Event ID with zeros in front filling in the missing characters so that it now can be joined to the shapefile using the Event_ID and Crash_ID fields
- Join shapefile to dbf table
- The variables in the attribute table are codes for values
 - You can find in CARE if you go to File – View Variable Names and Codes
 - You can export these if you go to File – Export Variable Names and Codes (excel)

Thank You. Questions?



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