Montgomery Metropolitan Planning Organization

Congestion Management Process Status Update

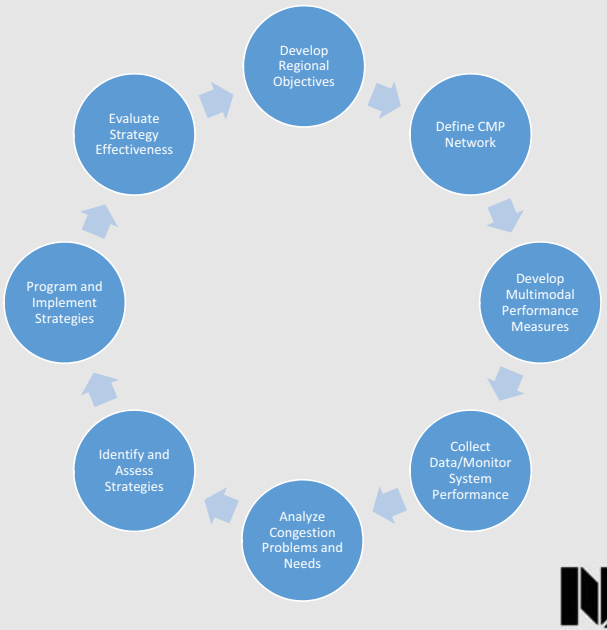
January 21, 2014

Presented by

Congestion Management Process Status Update

A CMP will help the MPO to:

- Identify congestion problem locations;
- Determine the causes of this congestion;
- Develop and evaluate alternative strategies to mitigate congestion; and
- Measure the progress of implemented strategies in reducing congestion.



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The main shift with the implementing of a Congestion Management Process (CMP) rather than a Congestion Management System is that it should measure the progress of implemented strategies in reducing congestion.

The 2003 and 2008 Congestion Management System Plans for Montgomery did not address this.

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CMP Goals and Objectives

Goal 1: To provide effective management of new and existing transportation facilities through use of travel demand reduction and operational management strategies.

- Objective 1: Reduce travel times on major routes.
- Objective 2: Reduce single occupancy travel and encourage other modes of travel.
- Objective 3: Utilize cost-effective, widening and non-widening solutions to improve capacity.
- Objective 4: Improve access management along major corridors.

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CMP Goals and Objectives

Goal 2: Optimize the safety of the current transportation network.

- Objective 1: Identify areas that have an unacceptably high number of crashes.
- Objective 2: Reduce impact from non-reoccurring congestion through efficient use of ITS.
- Objective 3: Reduce reoccurring congestion on corridors through mitigation techniques such as signal timing and capacity improvements.
- Objective 4: Reduce number of crashes on system.

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CMP Goals and Objectives

Goal 3: Optimize the effectiveness and reliability of the regional transportation network.

- Objective 1: Reduce response and clearance times from non-reoccurring congestion.
- Objective 2: Reduce delays from reoccurring congestion on corridors.

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CMP Goals and Objectives

Goal 4: Increase Multimodal Transportation Access.

- Objective 1: Increase convenience of transit system trips.
- Objective 2: Increase safety and convenience of bicycle and pedestrian trips.

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Study Network

- Geographical Limits
  - Montgomery County
  - Autauga County
  - Elmore County
- System Limits by Mode
  - Vehicular
- System Limits by Subset
  - Functional Class

Used	Functional Classification
✓	Interstate
✓	Freeway/Expressway
✓	Principal Arterial
✓	Minor Arterial
×	Major Collector
×	Minor Collector

Congestion Management Process Status Update

Objectives and Performance Measures

Goal 1: To provide effective management of new and existing transportation facilities through use of travel demand reduction and operational management strategies		
Objectives	**Local Performance Measures**	**Regional Performance Measures**
Reduce travel times on major routes.	Travel Time/Delay on Corridor	Hours of Travel when Volume to Capacity >1.0
Reduce single occupancy travel and encourage other modes of travel.	Transit Usage on Corridor Miles of Sidewalks and Bicycle Lanes	Vehicle Occupancy Rates Transit Crowding
Utilize cost-effective, widening and non-widening solutions to improve capacity.	Volume to Capacity Ratios	Volume to Capacity Ratios
Improve access management along	Number of Entrances	Hours of Travel when Volume

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Objectives and Performance Measures

Goal 2: Optimize the safety of the current transportation network.		
Objectives	**Local Performance Measures**	**Regional Performance Measures**
Identify areas that have an unacceptably high number of crashes.	Number of Crashes	Number of Crashes
Reduce impact from non-reoccurring congestion through efficient use of ITS.	Number of Crashes	Number of Crashes
Reduce reoccurring congestion on corridors through mitigation techniques such as signal timing and capacity improvements.	Intersection Capacity	Hours of Travel when Volume to Capacity >1.0
Reduce number of crashes on system.	Number of Crashes	Number of Crashes

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Objectives and Performance Measures

Goal 3: Optimize the effectiveness and reliability of the regional transportation network.		
Objectives	**Local Performance Measures**	**Regional Performance Measures**
Reduce response and clearance times from non-reoccurring congestion.	Response and Clearance Times	Response and Clearance Times
Reduce delays from reoccurring congestion on corridors.	Travel Time/Delay on Corridor	Hours of Travel when Volume to Capacity >1.0

Congestion Management Process Status Update

Objectives and Performance Measures

Goal 4: Increase Multimodal Transportation Access.		
Objectives	**Local Performance Measures**	**Regional Performance Measures**
Increase convenience of transit system trips.	Transit Usage on Corridor	Transit Crowding
Increase safety and convenience of bicycle and pedestrian trips.	Miles of Sidewalks and Bicycle Lanes	Miles of Sidewalks and Bicycle Lanes

Congestion Management Process Status Update

Data Inventory – What We Have

- Volume to Capacity Ratios
- Travel Times
- Crashes

Congestion Management Process Status Update

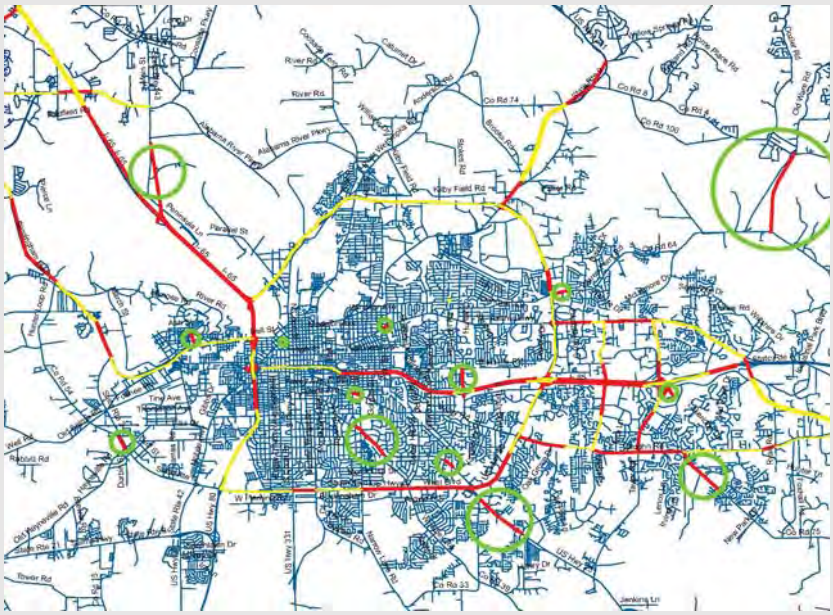
Data Inventory – What We May Need

- Vehicle Occupancy Rates
- Transit Crowding
- Response and Clearance Times
- Sidewalk and Bicycle Lane Miles
- After Travel Times

Congestion Management Process Status Update

Data Inventory – What We Have

- Volume to Capacity Ratios



LEGEND

- High Congestion
- Moderate Congestion

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Data Inventory – What We Have

- Volume to Capacity Ratios

V/C Ratio	Congestion Level	Miles of Roads	Percent of Roads
V/C <= 0.8	No \ low congestion	1121	35.1%
V/C > 0.8 and <= 0.90	Moderate congestion	267	8.4%
V/C > 0.90 and <= 1.0	High Congestion	245	7.7%
V/C > 1.0	Severe Congestion	1563	48.9%
	TOTAL MILES OF ROADS:	3196	

Congestion Management Process Status Update

Data Inventory – What We Have

- Crashes
  - Looked at crashes between 2010 and 2012 (3 years)
  - MPO prepared crash maps
  - Developed crash rates for intersection and corridors that had the highest crash rates based on the exhibits in the following slides.

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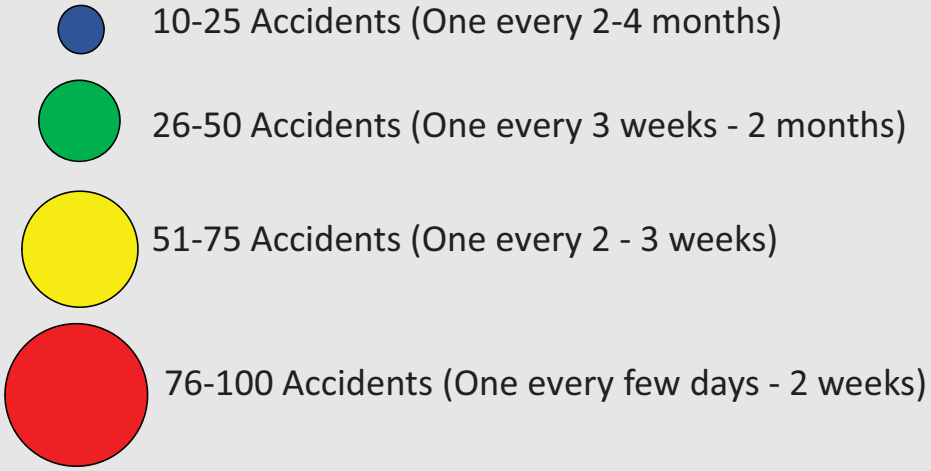
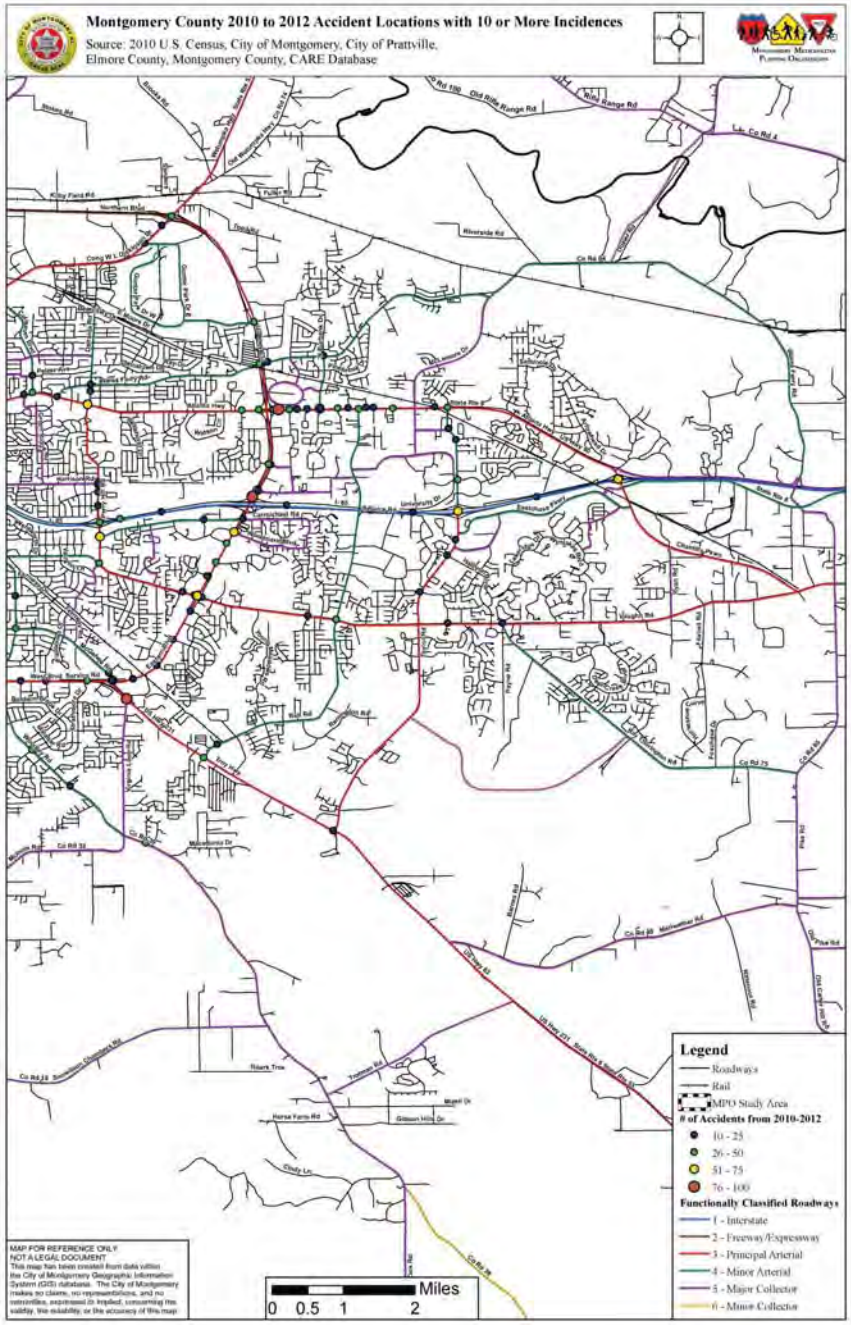
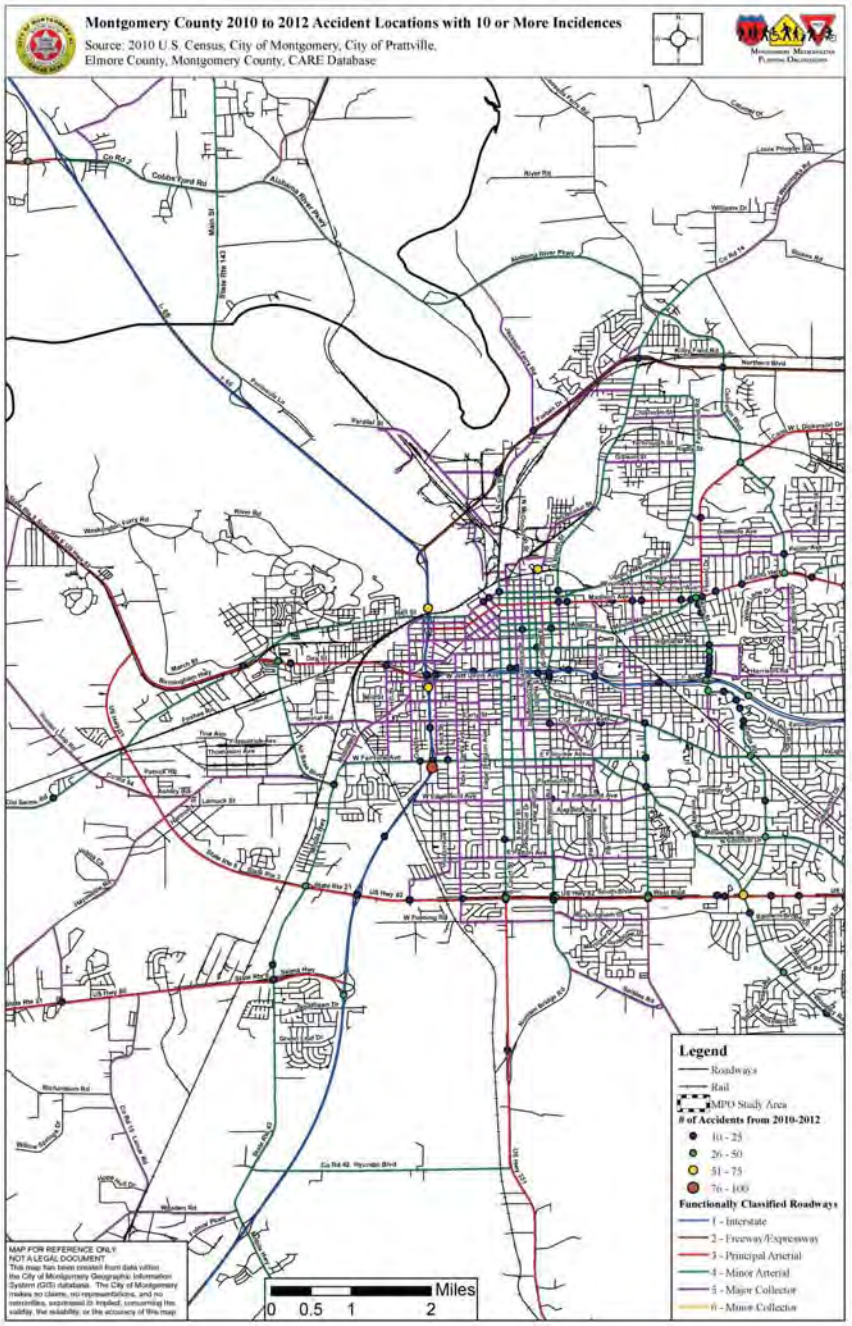
Data Inventory – What We Have

- Crashes Data




Montgomery County 2010 to 2012 Accident Locations with 10 or More Incidences
Source: 2010 U.S. Census, City of Montgomery, City of Prattville,
Elmore County, Montgomery County, CARE Database
Legend
Roadways
Rail
MPO Study Area
# of Accidents from 2010-2012
10 - 25
26 - 50
51 - 75
76 - 100
Functionally Classified Roadways
1 - Interstate
2 - Freeway/Expressway
3 - Principal Arterial
4 - Minor Arterial
5 - Major Collector
6 - Minor Collector
MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT
Miles
0 0.5 1 2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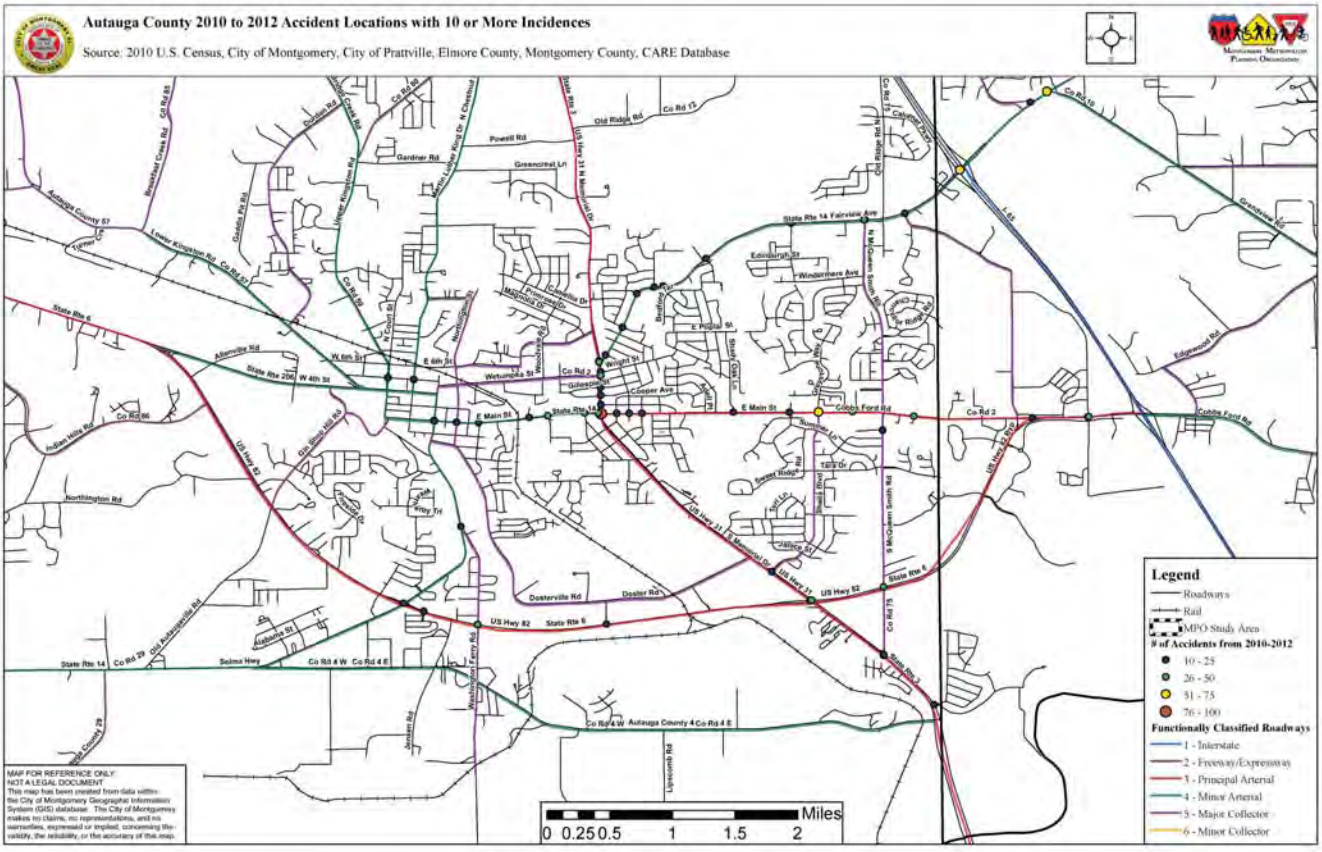
Autauga County 2010 to 2012 Accident Locations with 10 or More Incidences
Source: 2010 U.S. Census, City of Montgomery, City of Prattville, Elmore County, Montgomery County, CARE Database
Legend
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Rail
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0 0.25 0.5 1 1.5 2 Miles
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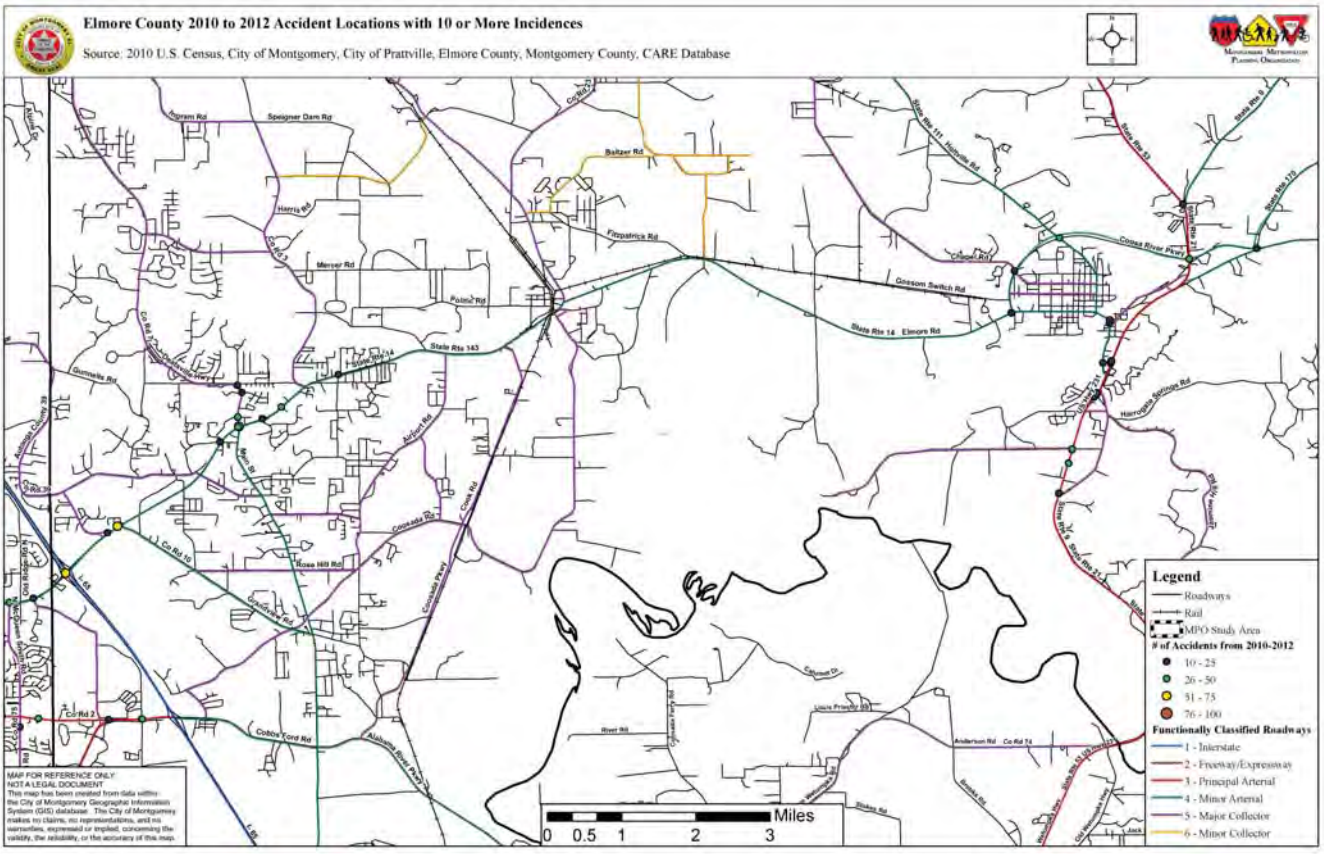
Elmore County 2010 to 2012 Accident Locations with 10 or More Incidences
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Legend
Roadways
Rail
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26 - 50
51 - 75
76 - 100
Functionally Classified Roadways
1 - Interstate
2 - Freeway/Expressway
3 - Principal Arterial
4 - Minor Arterial
5 - Major Collector
6 - Minor Collector
0 0.5 1 2 3 Miles
MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Congestion Management Process Status Update

Data Inventory – What We Have

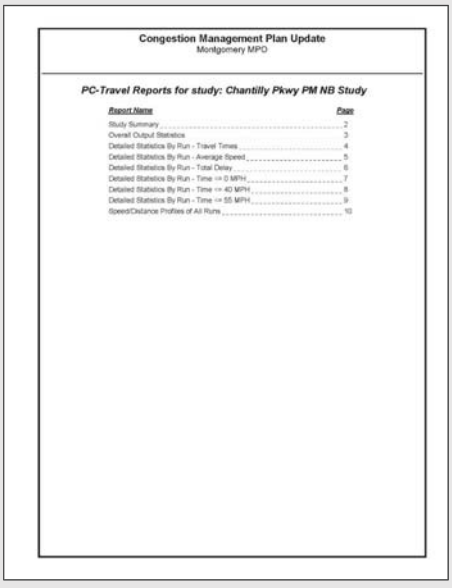
- Travel Times
  - Corridor selection was based on V/C ratios >1.5.
  - Additional corridors included based upon request by MPO staff.

Segment	From	To	Mileage
Ann St	E 5th Ave	Atlanta Hwy	1.47
Atlanta Hwy	East Blvd	Chantilly Pkwy	4.46
Bell Rd	Atlanta Hwy	Vaughn Rd	2.98
Carter Hill Rd	Vaughn Rd	McGehee Rd	1.06
Chantilly Pkwy	I-85	Vaughn Rd	2.73
Cobbs Ford Rd	I-65	SR-143	1.62
East Blvd	Wetumpka Hwy	Troy Hwy	7.55
I-65	SR-14	W Selma Hwy	13.72
I-85	I-65	Exit #16 (Waugh) / CR-126	15.71
Main St (Prattville)	Memorial Dr	I-65	3.58
Maxwell Blvd	US-31	I-65	3.52
Northern Blvd	I-65	Wetumpka Hwy	6.52
Old Carter Hill Rd	Old Pike Rd	US-231	6.33
Perry Hill Rd	Atlanta Hwy	Harrison Rd	1.13
Perry Hill Rd	Harrison Rd	I-85	0.51
Perry Hill Rd	I-85	Vaughn Rd	0.58
Pike Rd	US-80	Old Pike Rd	6.55
Ray Thorington Rd	Vaughn Rd	Pike Rd	4.37
South Blvd	Troy Hwy	I-65	5.44
SR-14	Main St (Prattville)	SR-143 N	10.5
SR-143	SR-14	I-65	6.74
Taylor Rd	Atlanta Hwy	Vaughn Rd	3.15
US-31	Main St (Prattville)	West Blvd	7.78
US-231 (North)	Northern Blvd	Jasmine Hill Rd	4.08
US-231 (South)	South Blvd	Taylor Rd	3.42
Vaughn Rd	East Blvd	Belser Blvd	8.92
Zelda Rd	Vaughn Rd	Ann St	1.09

Congestion Management Process Status Update

Data Inventory – What We Have

- Travel Times & Delay
  - Red & green segments indicate sections of roadway where traffic is moving below the recommended speed.
  - Yellow segments indicate sections of roadway where traffic is moving at or above the recommended speed


Congestion Management Plan Update
Montgomery MPO

PC-Travel Reports for study: Chantilly Pkwy PM NB Study

Report Name — Page

Study Summary 2
Overall Output Statistics 3
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Detailed Statistics By Run - Total Delay 6
Detailed Statistics By Run - Time <= 0 MPH 7
Detailed Statistics By Run - Time <= 40 MPH 8
Detailed Statistics By Run - Time <= 55 MPH 9
Speed/Distance Profiles of All Runs 10

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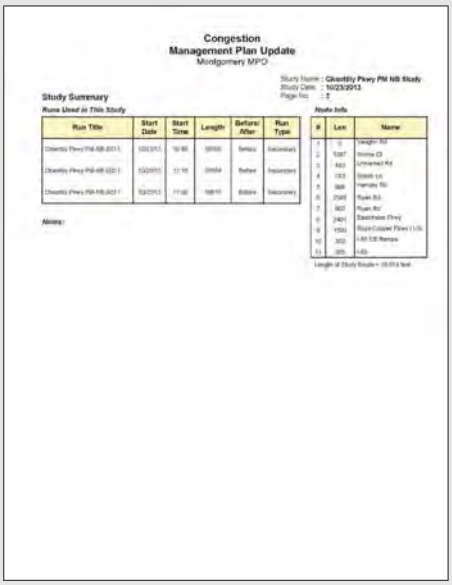
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Study Summary

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/ After	Run Type

#	Len	Name

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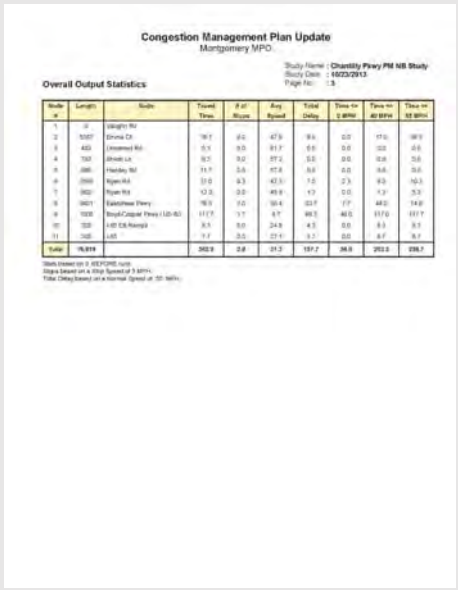
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Overall Output Statistics

Congestion Management Process Status Update

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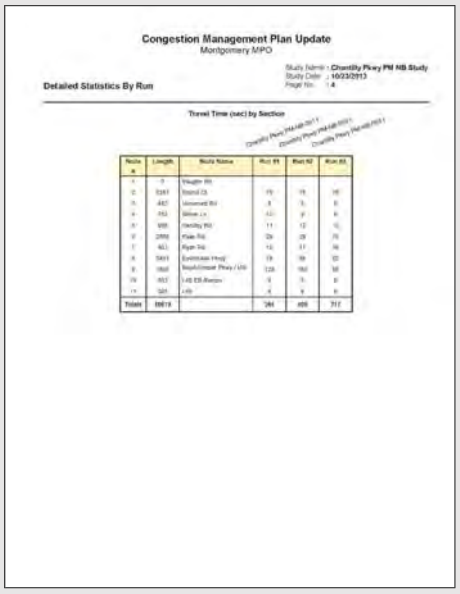
Congestion Management Plan Update
Montgomery MPO
Detailed Statistics By Run
Travel Time (sec) by Section

Congestion Management Process Status Update

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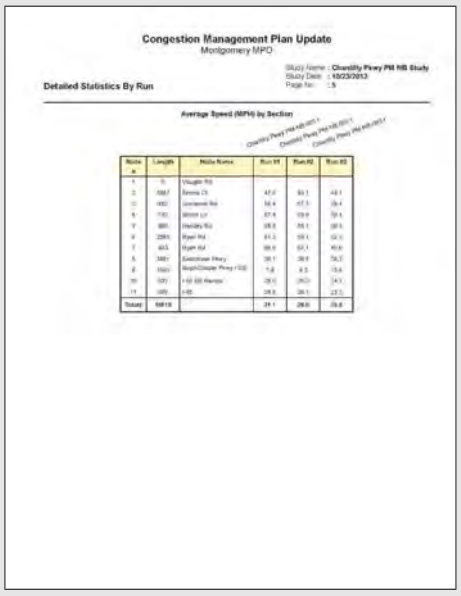
Congestion Management Plan Update
Montgomery MPO
Detailed Statistics By Run
Average Speed (MPH) by Section

Congestion Management Process Status Update

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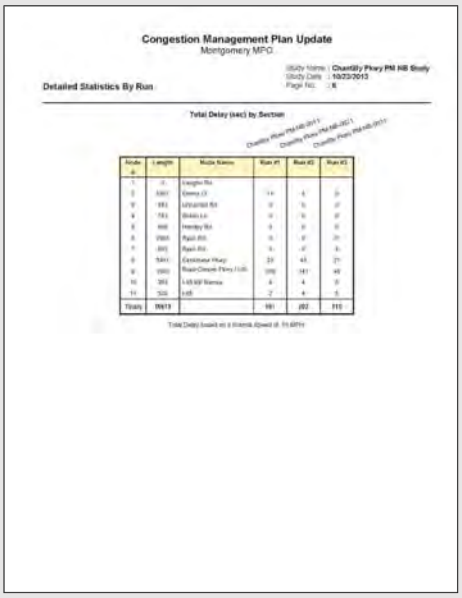
Congestion Management Plan Update
Montgomery MPO
Detailed Statistics By Run

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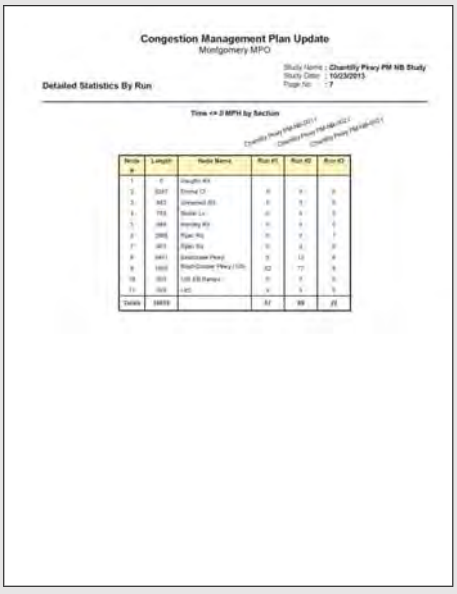
Congestion Management Plan Update
Montgomery MPO
Detailed Statistics By Run

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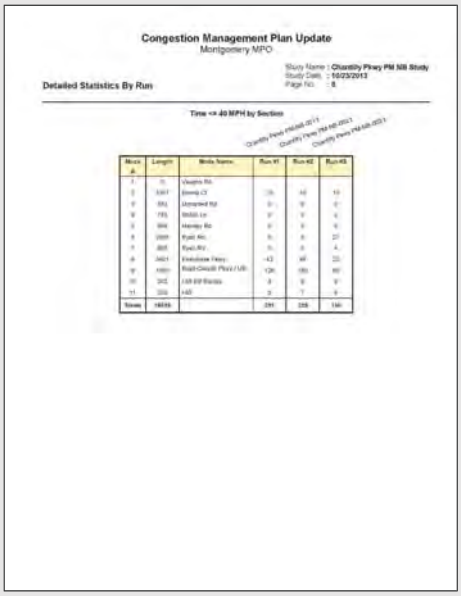
Congestion Management Plan Update
Montgomery MPO
Detailed Statistics By Run

Congestion Management Process Status Update

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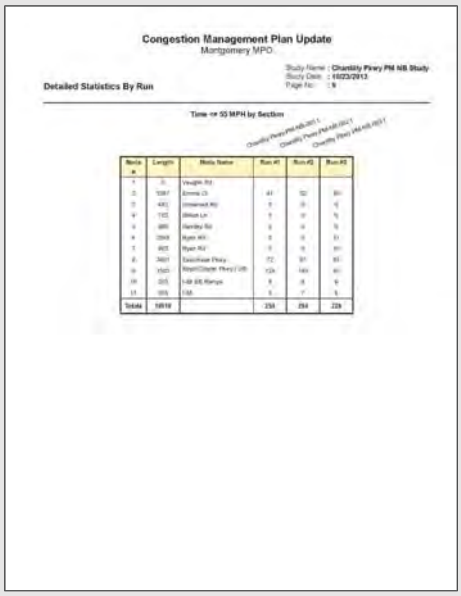
Congestion Management Plan Update
Montgomery MPO
Detailed Statistics By Run

Congestion Management Process Status Update

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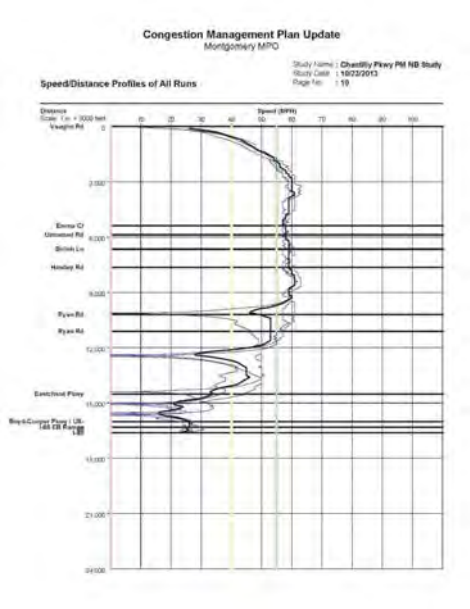

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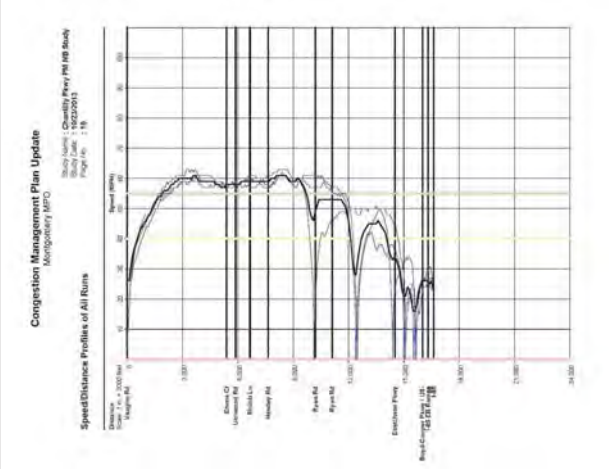

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Congestion Management Process Status Update

Next Steps

- Final Collection and Analysis of Data
  - Crash rates, travel time report, list of corridors with unacceptable travel speeds
- Identification of Congested Corridors (Recurring and Non-recurring)
  - Projects will be selected that fit either or both categories. No more than 25 project areas will be identified.
- Strategy Identification and Assessment
  - Potential tools to address congestion for each project area will be shown. (i.e. access management, widening, intersection modifications, transit, bike lanes, sideways, demand management, signal timing, ITS, etc.)

Congestion Management Process Status Update

Next Steps

- Public Review
  - Allow public to comment on potential projects.
- Monitoring Program
  - The CMP federal requirements indicate the MPO must monitor CMP projects to see if the strategies work and to adjust as needed.

Congestion Management Process Status Update

What else would you like to know about the status of the

Montgomery Congestion Management Process?