

# Montgomery Metropolitan Planning Organization

## Congestion Management Process Status Update

January 21, 2014



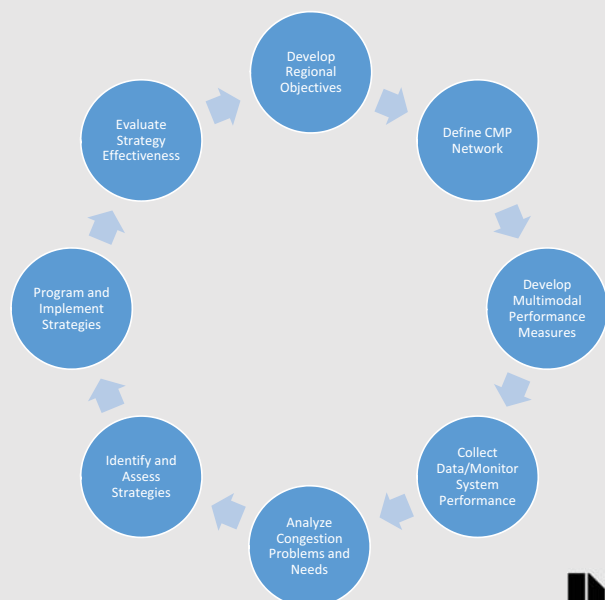
Presented by



## 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.



# Congestion Management Process Status Update

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.



# Congestion Management Process Status Update

## **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.



# Congestion Management Process Status Update

## 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.



# Congestion Management Process Status Update

## 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.



# Congestion Management Process Status Update

## 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.



# Congestion Management Process Status Update

## 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



# Congestion Management Process Status Update

## 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



# Congestion Management Process Status Update

## 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



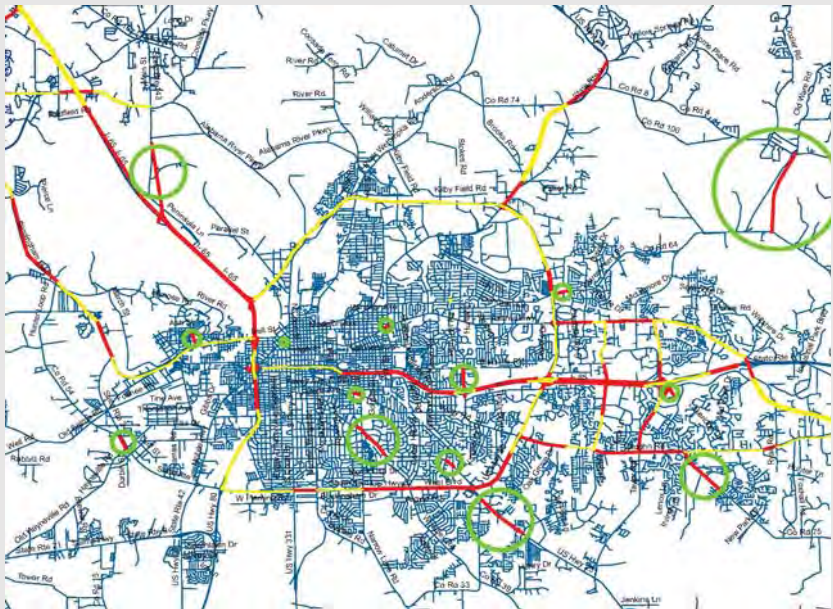
# Congestion Management Process Status Update

## Data Inventory – What We Have

- Volume to Capacity Ratios

**LEGEND**

- High Congestion
- Moderate Congestion



# Congestion Management Process Status Update

## 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



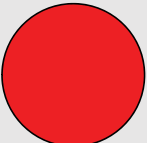
## Data Inventory – What We Have

- 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.

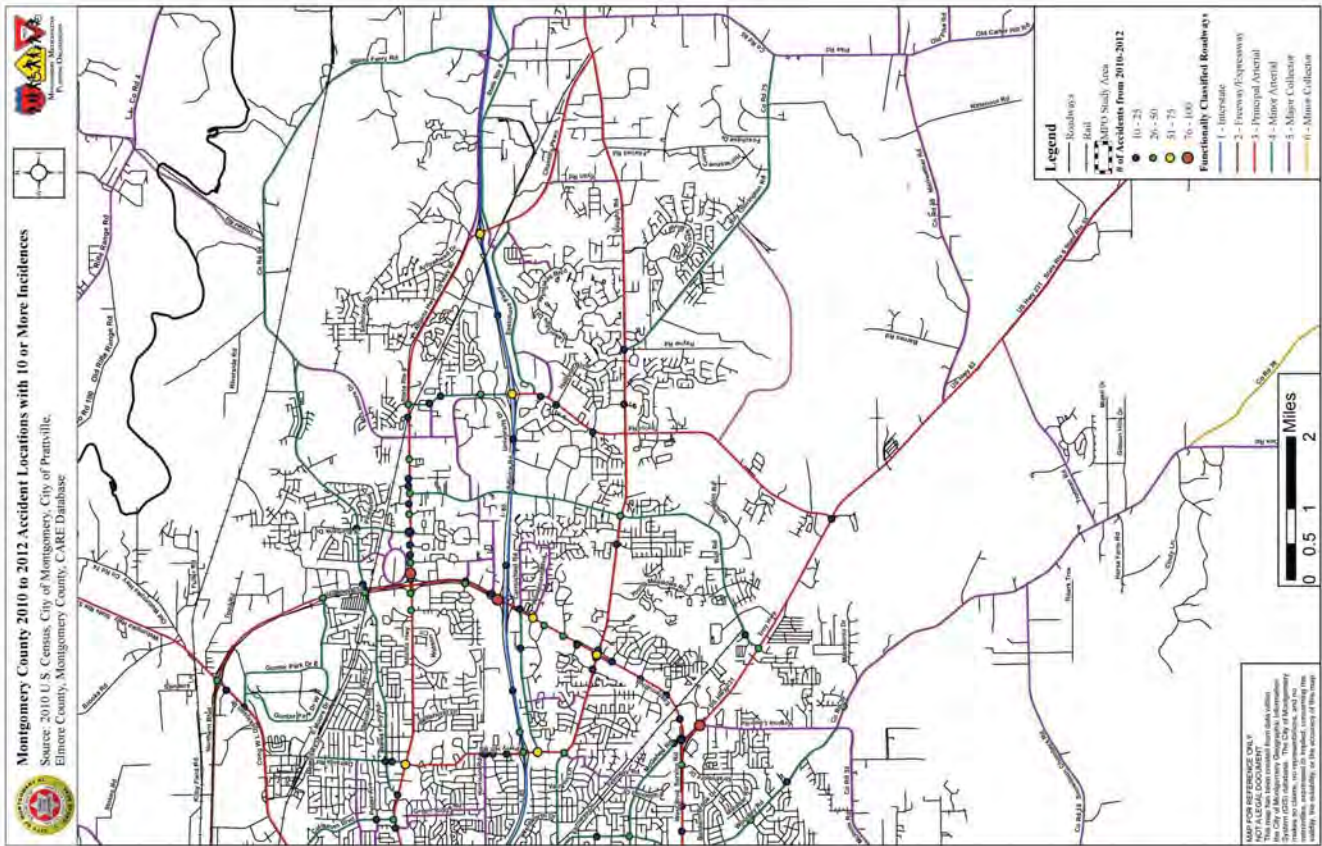
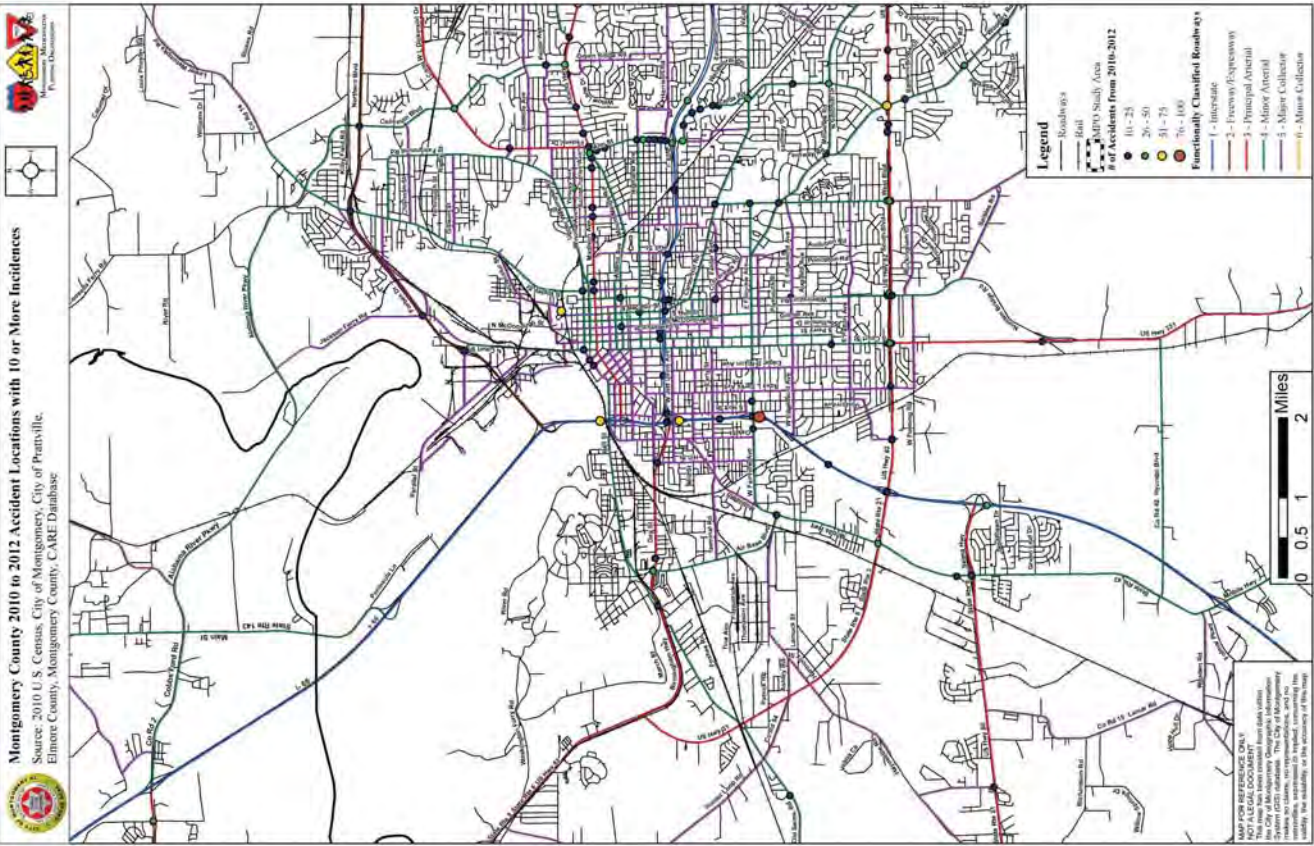


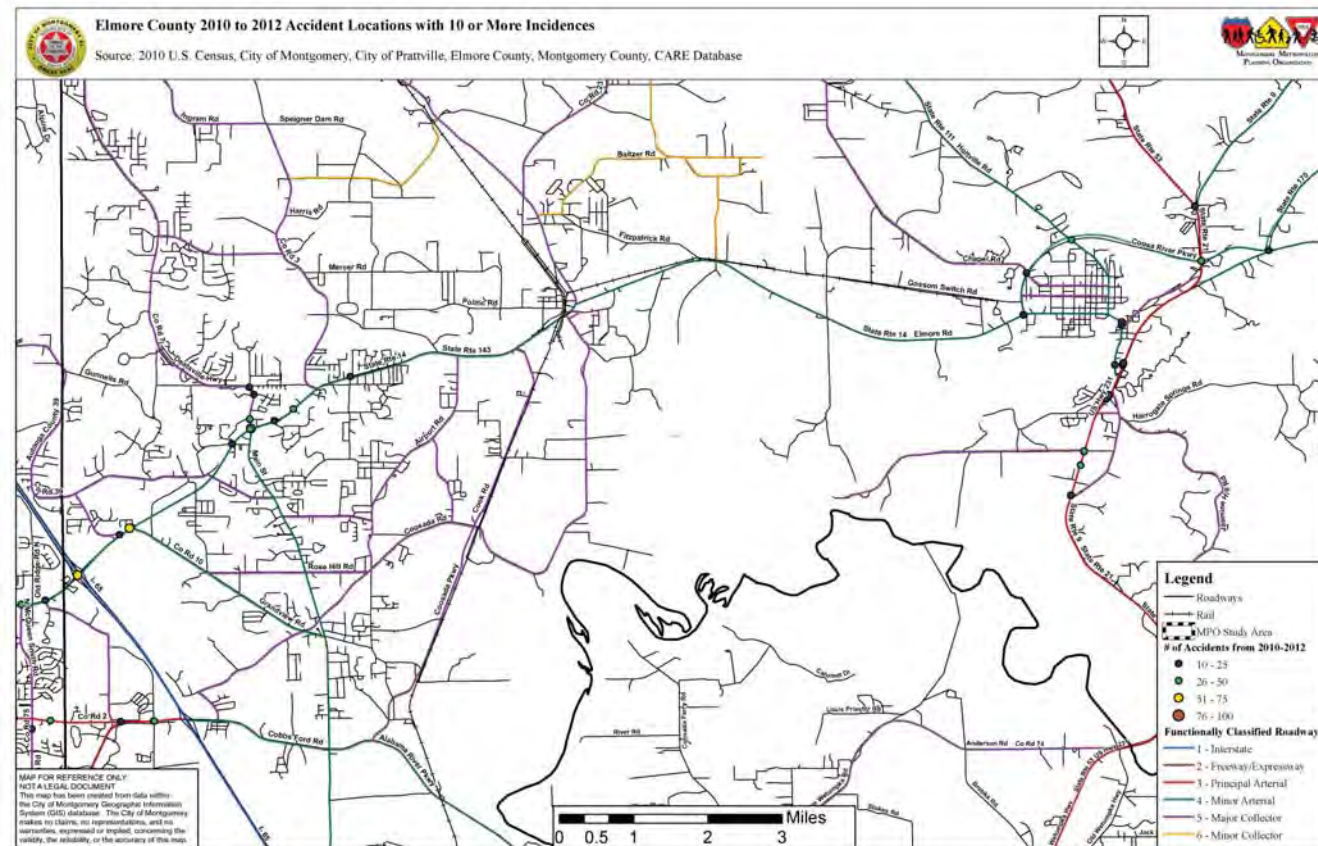
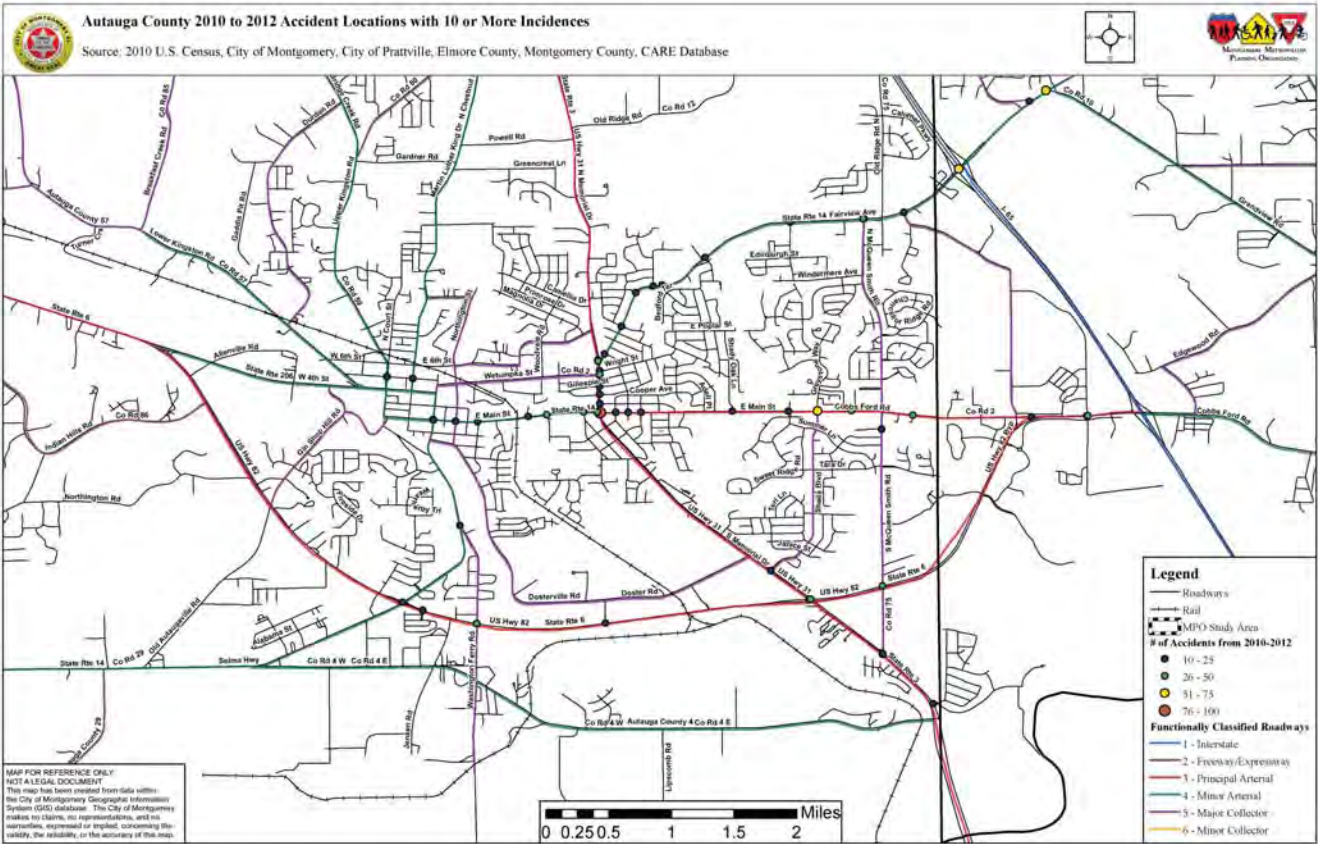
# Congestion Management Process Status Update

## Data Inventory – What We Have

- Crashes Data
  -  10-25 Accidents (One every 2-4 months)
  -  26-50 Accidents (One every 3 weeks - 2 months)
  -  51-75 Accidents (One every 2 - 3 weeks)
  -  76-100 Accidents (One every few days - 2 weeks)







# 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
Detailed Statistics By Run - Travel Times	4
Detailed Statistics By Run - Average Speed	5
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/Delay Profiles of All Runs	10



# Congestion Management Process Status Update

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**Congestion Management Plan Update**  
Montgomery MPO

Study Name - Chantilly Pkwy PM NB Study  
Study Code - 140220W13  
Page No. - 2

**Study Summary**

Runs Used in This Study

Run Title	Start Date	Start Time	Length	Before/After	Run Type	#	Len	Maxw
Chantilly Pkwy PM-48-0211	10/22/13	16:00	3800	Before	Automatic	1	10	1000
Chantilly Pkwy PM-48-0211	10/22/13	17:00	3800	After	Automatic	2	10	1000
Chantilly Pkwy PM-48-0211	10/22/13	17:00	1800	Before	Automatic	3	10	1000

**Notes:**

#	Len	Maxw
1	10	1000
2	10	1000
3	10	1000
4	10	1000
5	10	1000
6	10	1000
7	10	1000
8	10	1000
9	10	1000
10	10	1000
11	10	1000
12	10	1000
13	10	1000
14	10	1000
15	10	1000
16	10	1000
17	10	1000
18	10	1000
19	10	1000
20	10	1000

Length of Study Period = 10:00 to 18:00



# Congestion Management Process Status Update

## Data Inventory – What We Have

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**Congestion Management Plan Update**  
Montgomery MPO

Study Name - Chantilly Pkwy PM NB Study  
Study Code - 140220W13  
Page No. - 3

**Overall Output Statistics**

Study #	Length	Study	Travel Time	# of Runs	Any Delay	Total Delay	Time in Queue	Time in Delay
1	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
2	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
3	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
4	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
5	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
6	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
7	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
8	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
9	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
10	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
11	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
12	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
13	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
14	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
15	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
16	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
17	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
18	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
19	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
20	10	Chantilly Pkwy	181	20	479	89	0:01	0:01
<b>Total</b>	<b>10</b>	<b>Chantilly Pkwy</b>	<b>181</b>	<b>20</b>	<b>479</b>	<b>89</b>	<b>0:01</b>	<b>0:01</b>

Notes: Delayed on a 45 MPH Speed of 3 MPH.  
Total Delay Based on a Maximum Speed of 45 MPH.



# Congestion Management Process Status Update

## Data Inventory – What We Have

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**Congestion Management Plan Update**  
Montgomery MPO

Study Name: **Quality Priority PM HS Study**  
Study Date: **1/23/2013**  
Page No: **4**

**Detailed Statistics By Run**

**Travel Time (sec) by Section**

Section #	Length	Section Name	Run 01	Run 02	Run 03
1	1.37	Thurgood PM	-	-	-
2	10.1	Donnell Dr	19	18	19
3	4.87	Lockwood Rd	5	3	8
4	1.63	Shiloh Ln	42	9	8
5	0.80	Georgetown Rd	11	12	10
6	2.00	Plaza Rd	28	28	26
7	4.1	Highway 28	15	17	16
8	1.61	Lockwood Hwy	19	18	19
9	1.64	Northwood Hwy / US	22	16	16
10	0.1	US 28 Intersect	3	3	3
11	1.01	US 28	4	3	3
<b>Total</b>	<b>38.13</b>		<b>246</b>	<b>188</b>	<b>212</b>



# Congestion Management Process Status Update

## Data Inventory – What We Have

- Travel Times & Delay
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**Congestion Management Plan Update**  
Montgomery MPO

Study Name: **Quality Priority PM HS Study**  
Study Date: **1/23/2013**  
Page No: **5**

**Detailed Statistics By Run**

**Average Speed (MPH) by Section**

Section #	Length	Section Name	Run 01	Run 02	Run 03
1	1.37	Thurgood PM	-	-	-
2	10.1	Donnell Dr	42.0	33.1	42.1
3	4.87	Lockwood Rd	34.4	47.3	36.4
4	1.63	Shiloh Ln	37.4	39.9	39.4
5	0.80	Georgetown Rd	38.5	34.1	38.5
6	2.00	Plaza Rd	41.3	38.1	42.0
7	4.1	Highway 28	38.0	35.1	40.0
8	1.61	Lockwood Hwy	38.0	38.9	34.0
9	1.64	Northwood Hwy / US	1.3	4.3	13.4
10	0.1	US 28 Intersect	39.0	39.0	41.1
11	1.01	US 28	38.0	38.0	33.0
<b>Total</b>	<b>38.13</b>		<b>39.1</b>	<b>38.0</b>	<b>38.4</b>



# Congestion Management Process Status Update

## Data Inventory – What We Have

- Travel Times & Delay
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**Congestion Management Plan Update**  
Montgomery MPO  
Study Name : quantify Pkey PM NB Study  
Study Date : 1/22/2015  
Page No : 18

**Detailed Statistics By Run**

**Total Delay (sec) by Section**

Route ID	Length	Route Name	Run #1	Run #2	Run #3
1	1.1	Louisa Rd	14	6	20
2	1.8	Conasa Dr	6	5	20
3	1.8	Littlespring Rd	6	5	20
4	1.8	Woods Ln	6	5	20
5	1.8	Montebello Rd	6	5	20
6	1.8	Park Rd	6	5	20
7	1.8	Rocky Hill Rd	6	5	20
8	1.8	Rocky Hill Rd	6	5	20
9	1.8	Charmers Place	22	43	20
10	1.8	Roundcross Pkwy/USH	100	181	48
11	1.8	USH/USH Interchange	4	4	20
12	1.8	USH	2	4	20
<b>Totals</b>			<b>361</b>	<b>422</b>	<b>420</b>

Total Delay (sec) on 8 Routes above is 15,461 sec



# Congestion Management Process Status Update

## Data Inventory – What We Have

- Travel Times & Delay
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**Congestion Management Plan Update**  
Montgomery MPO  
Study Name : quantify Pkey PM NB Study  
Study Date : 1/22/2015  
Page No : 17

**Detailed Statistics By Run**

**Time <= 2 MPH by Section**

Route ID	Length	Route Name	Run #1	Run #2	Run #3
1	1.1	Louisa Rd	0	1	0
2	1.8	Conasa Dr	0	1	0
3	1.8	Littlespring Rd	0	1	0
4	1.8	Woods Ln	0	1	0
5	1.8	Montebello Rd	0	1	0
6	1.8	Park Rd	0	1	0
7	1.8	Rocky Hill Rd	0	1	0
8	1.8	Rocky Hill Rd	0	1	0
9	1.8	Charmers Place	0	1	0
10	1.8	Roundcross Pkwy/USH	0	1	0
11	1.8	USH/USH Interchange	0	1	0
12	1.8	USH	0	1	0
<b>Totals</b>			<b>0</b>	<b>1</b>	<b>0</b>



# Congestion Management Process Status Update

## Data Inventory – What We Have

- Travel Times & Delay
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**Congestion Management Plan Update**  
Montgomery MPO

Study Name : **Chandley Pike PM NB Study**  
Study Date : 11/22/2015  
Page No. : 8

**Detailed Statistics By Run**

Time vs 40 MPH by Section

Quality Period 11/16/15-11/17/15  
Quality Period 11/18/15-11/19/15  
Quality Period 11/20/15-11/21/15

Block #	Length	Block Name	Run #1	Run #2	Run #3
1	0.1	Chandley Rd	10	10	10
2	0.1	Chandley Rd	10	10	10
3	0.1	Chandley Rd	10	10	10
4	0.1	Chandley Rd	10	10	10
5	0.1	Chandley Rd	10	10	10
6	0.1	Chandley Rd	10	10	10
7	0.1	Chandley Rd	10	10	10
8	0.1	Chandley Rd	10	10	10
9	0.1	Chandley Rd	10	10	10
10	0.1	Chandley Rd	10	10	10
11	0.1	Chandley Rd	10	10	10
Total	1.0		100	100	100



# Congestion Management Process Status Update

## Data Inventory – What We Have

- Travel Times & Delay
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**Congestion Management Plan Update**  
Montgomery MPO

Study Name : **Chandley Pike PM NB Study**  
Study Date : 11/22/2015  
Page No. : 8

**Detailed Statistics By Run**

Time vs 50 MPH by Section

Quality Period 11/16/15-11/17/15  
Quality Period 11/18/15-11/19/15  
Quality Period 11/20/15-11/21/15

Block #	Length	Block Name	Run #1	Run #2	Run #3
1	0.1	Chandley Rd	10	10	10
2	0.1	Chandley Rd	10	10	10
3	0.1	Chandley Rd	10	10	10
4	0.1	Chandley Rd	10	10	10
5	0.1	Chandley Rd	10	10	10
6	0.1	Chandley Rd	10	10	10
7	0.1	Chandley Rd	10	10	10
8	0.1	Chandley Rd	10	10	10
9	0.1	Chandley Rd	10	10	10
10	0.1	Chandley Rd	10	10	10
11	0.1	Chandley Rd	10	10	10
Total	1.0		100	100	100

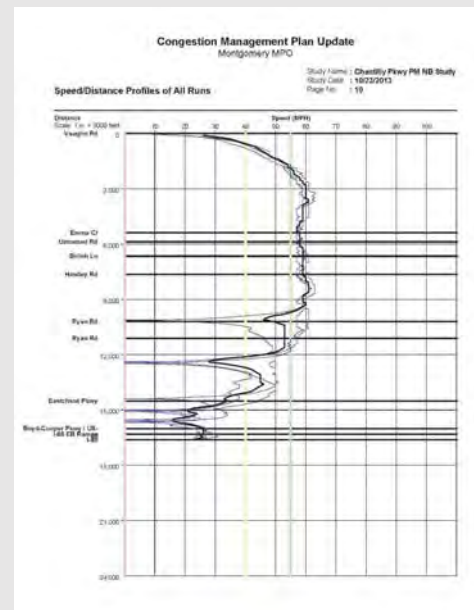




# Congestion Management Process Status Update

## Data Inventory – What We Have

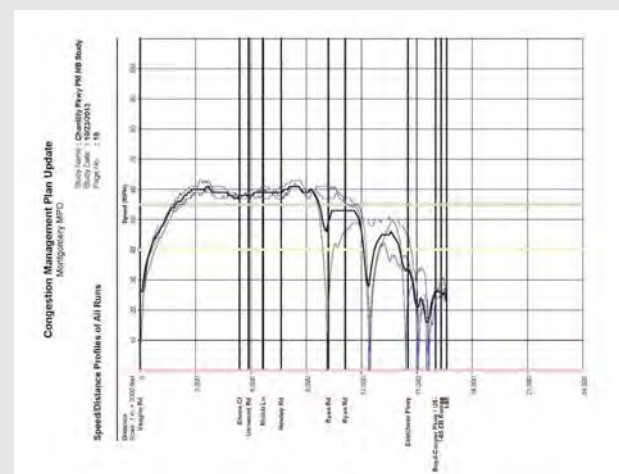
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# Congestion Management Process Status Update

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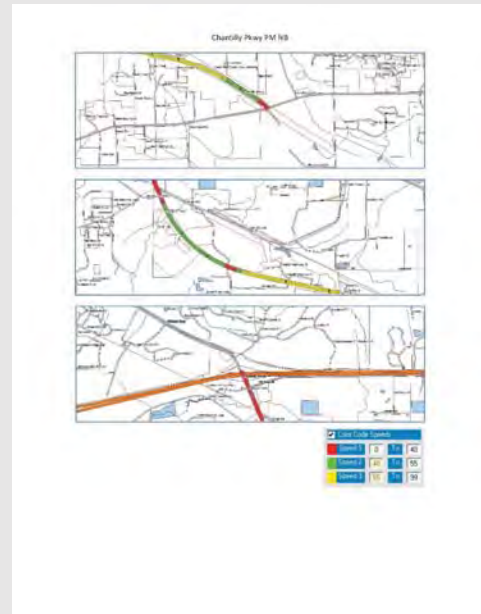
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# Congestion Management Process Status Update

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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?*

