CORE
COASTAL REGION MPO

CORE MPO
Freight Transportation Plan

Project Advisory Committee

August 13, 2014

Agenda

9:30 - 9:45	Welcome-Introductions
9:45 - 10:00	Recap of FAC Meeting #1

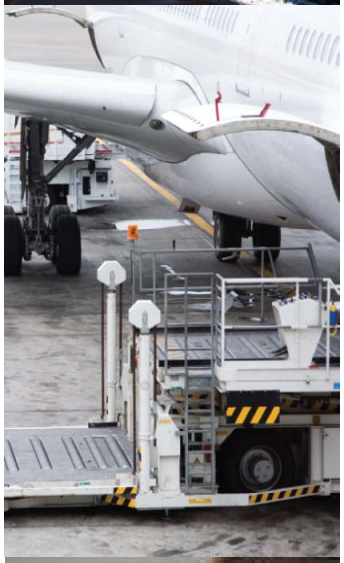
10:00 – 10:45	CORE MPO Freight Transportation Plan Update
	• Review outcomes of Subtasks 2.3, 2.5, and 4
	  • Future freight growth forecast
	  • Freight network bottleneck, safety and security issues
	  • Economic development market analysis

10:45 – 11:00	BREAK
11:00 – 11:40	Workshop on Subtask 3 • Land use assessment and analysis
11:40 – 11:55	Recap of breakout groups/What's Next?
11:55 – 12:00	Conclusion and Adjournment

CORE
COASTAL REGION MPO

Recap of FAC Meeting #1

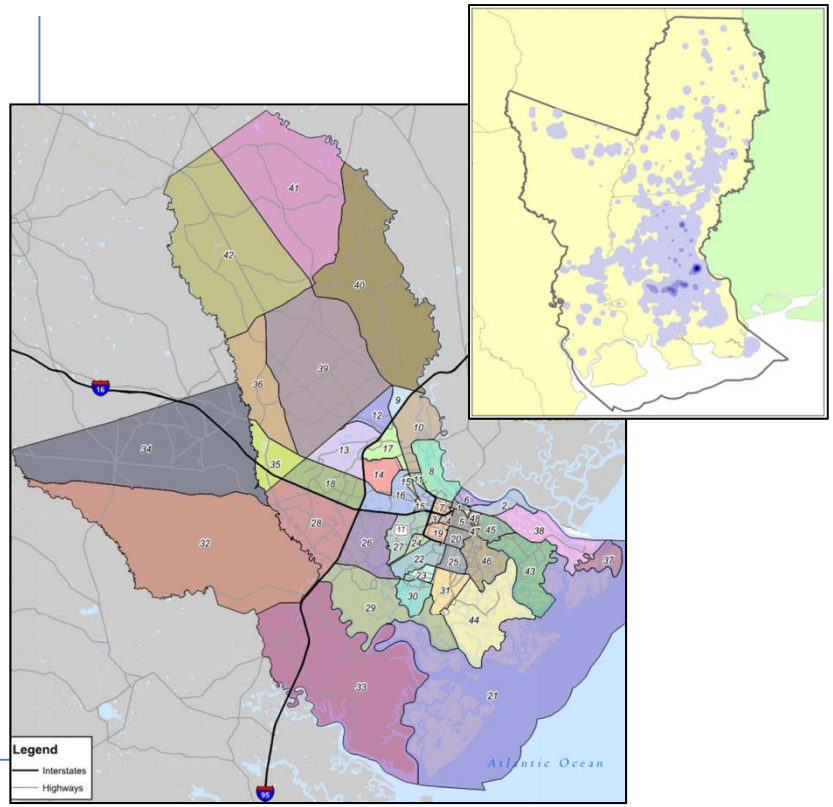





2.1 Existing and Future…

2011	Into		Out Of		Internal	
	Ktons	$M	Ktons	$M	Ktons	$M
Truck	37,663.7	38,794.5	42,243.3	64,684.1	16,691.6	15,878.6
Rail	7,731.6	3,110.3	2,926.4	2,025.4	646.2	289.4
Water	3,008.8	2,396.5	7.0	4.0	5.2	0.7
Air	2.2	489.9	3.8	1,090.7	-	2.0
Multiple modes & other	15,504.8	15,313.3	11,421.9	12,883.4	9,016.3	4,478.1

Source: Freight Analysis Framework, http://faf.ornl.gov/fafweb/Default.aspx



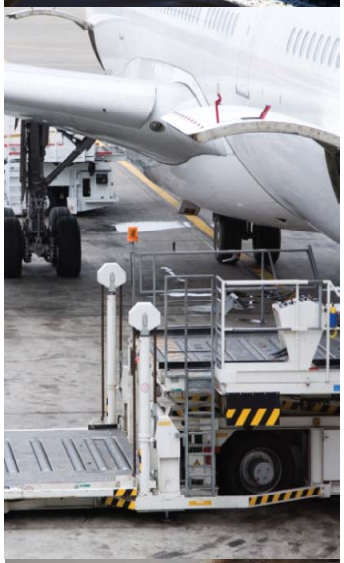
2.2 Performance Measures

Consistent with:
- Moving Ahead for Progress in the 21st Century Act (MAP-21)
- CORE MPO 2035 LRTP Framework Mobility Plan
- FY2013-2016 Transportation Improvement Program
- Chatham County-Savannah Tricentennial Comprehensive Plan
- 2013 Georgia Statewide Strategic Transportation Plan
- Georgia Statewide Freight and Logistics Plan, 2010-2050

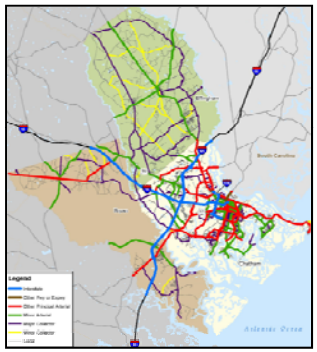
Program	Measure Category	States to Establish Targets:
National Highway Performance Program	Interstate Pavement Condition on the NHS	Within 1 year of final rule on national performance measures
	Non-Interstate Pavement Condition on the NHS	
	Bridge Condition on NHS	
	Performance of Interstate System	
	Performance of Non-Interstate NHS	
Highway Safety Improvement Program	Serious Injuries per VMT	Within 1 year of final rule on national performance measures
	Fatalities per VMT	
	Number of Serious Injuries	
	Number of Fatalities	
Congestion Mitigation and Air Quality	Traffic Congestion	Within 1 year of final rule on national performance measures
	On-road mobile source emissions	
Freight Policy	Freight Movement on the Interstate	Periodically

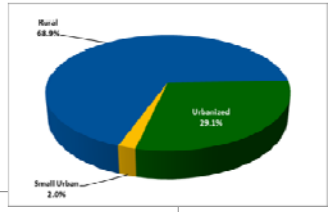
Source: Federal Highway Administration, Office of Policy and Governmental Affairs, 2012

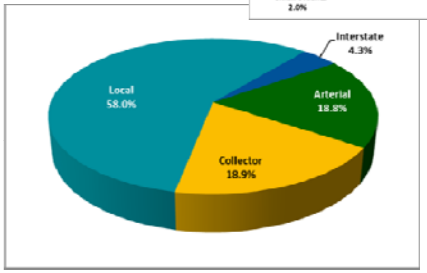





2.4 Regional Profiles







Port	Number of Vessel Calls	Capacity of Calls
Savannah	2,219	112,557

Source: http://www.navigationdatacenter.us/

Commodity	Georgia Central	Golden Isles	Savannah Port
Automobiles		X	
Coal	X		
Chemicals	X	X	X
Farm & Food Products	X	X	
Forest	X		
Stone	X		
Plastics	X		
Paper	X		X
Intermodal			X
Machinery			X

Source: Genesse & Wyoming, INC., http://www.gwrr.com

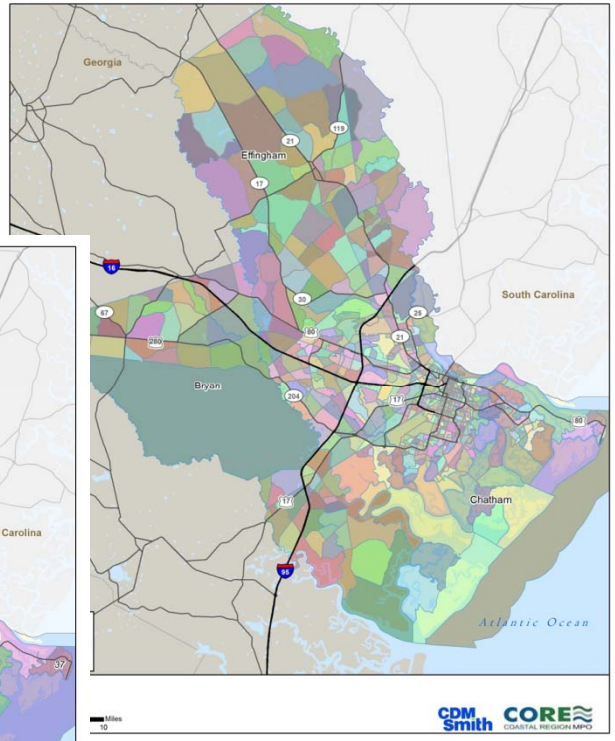
TM 2.3 Forecasting Future Growth – Data Sources

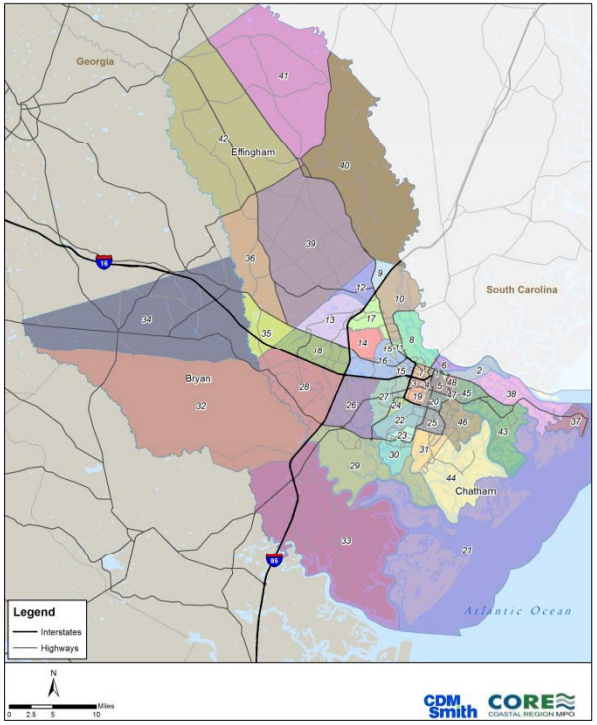
- Freight Analysis Framework (FAF)
  - National Freight flow information
    - Tonnage
    - Value
    - Domestic ton-miles by region
      - Origin and destination
      - Commodity type
      - Mode of travel

- Longitudinal Employer Household Dynamics (LEHD) database
  - Census data
  - Government surveys
  - Administrative sources
    - Unemployment insurance earnings data
    - Quarterly Census of employment and wages data

Freight Forecasting Geographic Areas

- Zonal Data
  - 796 internal TAZs
  - 48 freight districts in the study area





FAF Results – Values by Mode for 2011 and 2040

- 2011 Mode Values

2011	Into Savannah FAF Region		Out Of Savannah FAF Region		Internal	
	KTons	$M	KTons	$M	KTons	$M
Truck	37,663.7	38,794.5	42,243.3	64,684.1	16,691.6	15,878.6
Rail	7,731.6	3,110.3	2,926.4	2,025.4	646.2	289.4
Water	3,008.8	2,396.5	7.0	4.0	5.2	0.7
Air	2.2	489.9	3.8	1,090.7	-	2.0
Multiple modes & other	15,504.8	15,313.3	11,421.9	12,883.4	9,016.3	4,478.1

Source: Freight Analysis Framework, http://faf.ornl.gov/fafweb/Default.aspx

- 2040 Mode Values

2040	Into Savannah FAF Region		Out Of Savannah FAF Region		Internal	
	KTons	$M	KTons	$M	KTons	$M
Truck	85,123.1	103,822.2	89,371.6	170,871.0	31,256.2	36,468.0
Rail	11,516.8	6,042.2	5,866.8	5,866.5	1,426.5	613.3
Water	2,354.5	1,868.1	20.8	4.5	15.4	2.2
Air	6.5	1,335.3	11.8	3,416.7	5,054.8	5,305.0
Multiple modes & other	35,883.6	46,514.0	26,936.9	38,534.2	15,679.2	6,132.0

Source: Freight Analysis Framework, http://faf.ornl.gov/fafweb/Default.aspx

Top Commodity by Tonnage via Truck – 2011 and 2040

- Top 10 Commodity by Tonnage by Truck (2011)

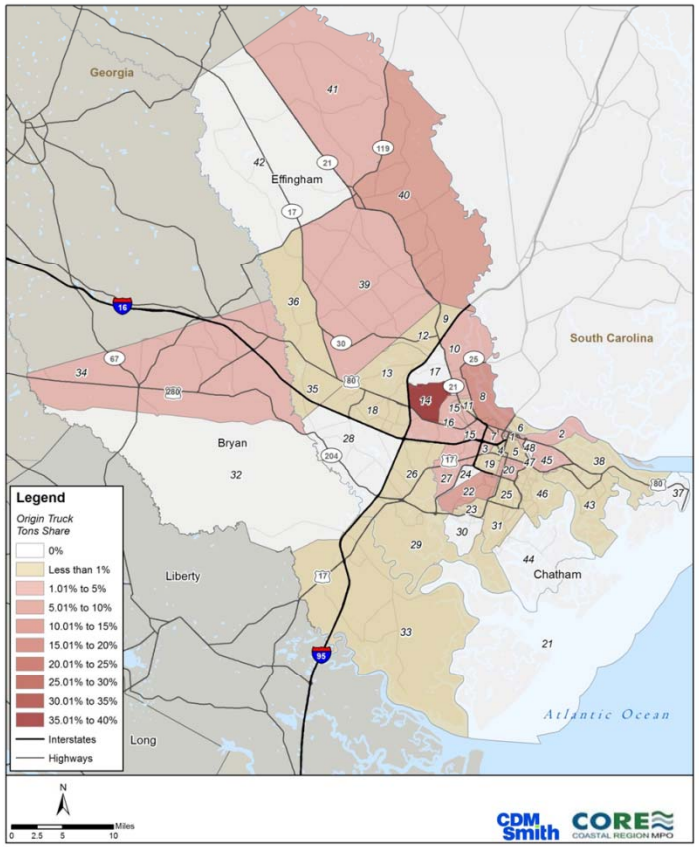
Import			Export		
Commodity	KTons	% of total	Commodity	KTons	% of total
Nonmetallic minerals	4,489.8	12.0%	Coal-n.e.c.	5,059.9	20.7%
Logs	3,678.5	9.8%	Mixed freight	3,238.9	13.2%
Nonmetal min. prods.	3,525.2	9.4%	Nonmetal min. prods.	1,835.4	7.5%
Waste/scrap	2,981.8	8.0%	Other foodstuffs	1,244.8	5.1%
Newsprint/paper	2,631.6	7.0%	Machinery	1,098.1	4.5%
Fertilizers	2,393.5	6.4%	Waste/scrap	1,077.6	4.4%
Gasoline	2,280.6	6.1%	Fuel oils	959.3	3.9%
Fuel oils	1,543.4	4.1%	Nonmetallic minerals	932.1	3.8%
Basic chemicals	1,275.1	3.4%	Newsprint/paper	919.2	3.8%
Coal-n.e.c.	1,158.0	3.1%	Base metals	804.9	3.3%

- Top 10 Commodity by Tonnage by Truck (2040)

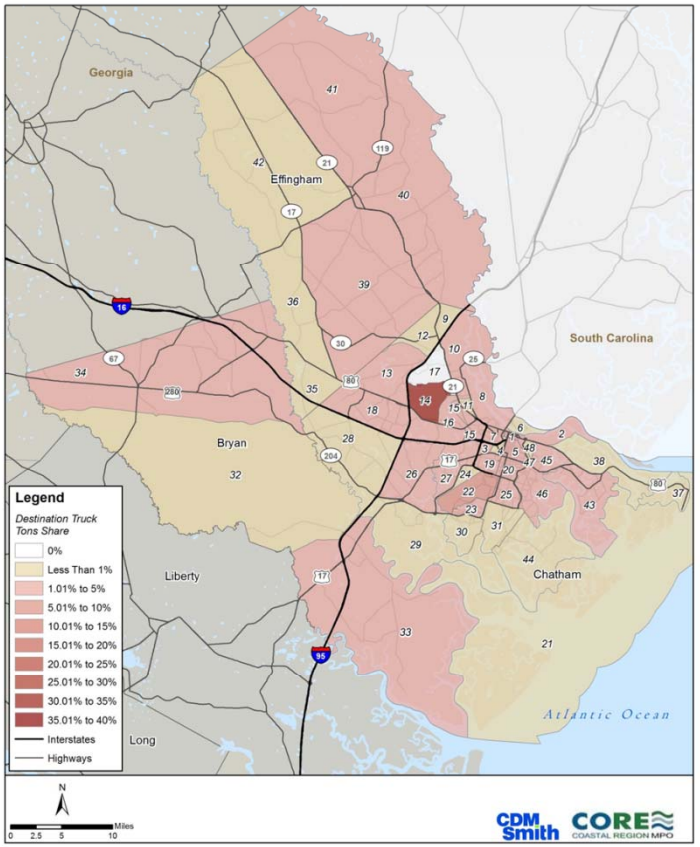
Import			Export		
Commodity	KTons	% of total	Commodity	KTons	% of total
Nonmetallic minerals	20,032.4	23.8%	Other foodstuffs	9,656.9	10.9%
Nonmetal min. prods.	7,854.3	9.3%	Nonmetal min. prods.	9,312.0	10.5%
Newsprint/paper	6,998.0	8.3%	Coal-n.e.c.	8,824.9	10.0%
Waste/scrap	6,109.0	7.3%	Mixed freight	8,603.4	9.7%
Logs	3,932.8	4.7%	Nonmetallic minerals	5,578.0	6.3%
Meat/seafood	3,393.8	4.0%	Machinery	5,044.1	5.7%
Plastics/rubber	3,228.9	3.8%	Newsprint/paper	4,539.7	5.1%
Gasoline	3,075.8	3.7%	Waste/scrap	3,891.1	4.4%
Basic chemicals	2,852.3	3.4%	Chemical prods.	3,399.1	3.8%
Fertilizers	2,386.2	2.8%	Furniture	3,390.7	3.8%

Trucks Tonnage – Incoming vs. Outgoing

Truck Tons **from** the Study Area (2011)



Truck Tons **to** the Study Area (2011)



Top Commodity by Tonnage via Rail – 2011 and 2040

- Top 10 Commodity by Tonnage by Rail (2011)

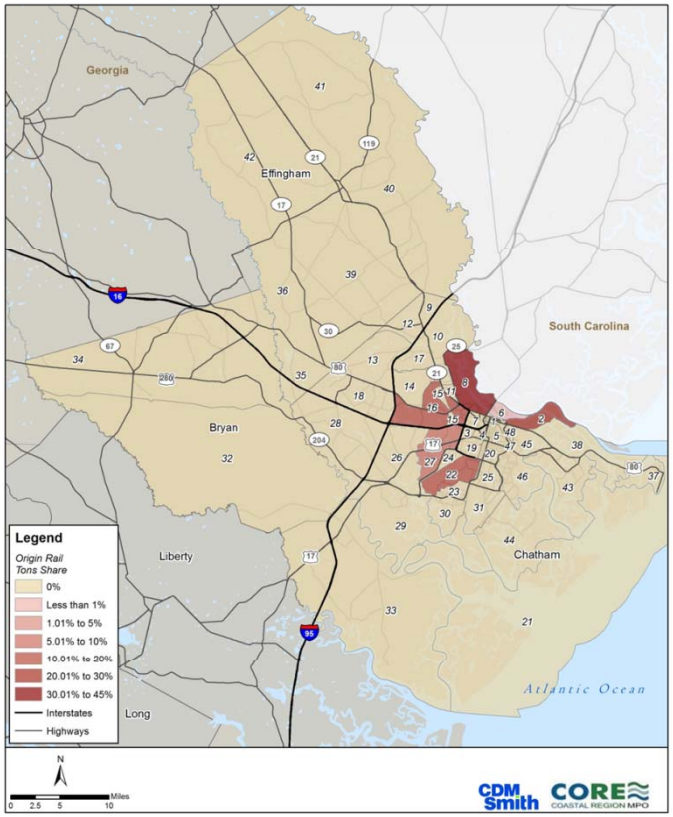
Import			Export		
Commodity	KTons	% of total	Commodity	KTons	% of total
Fertilizers	2,681.8	34.7%	Newsprint/paper	796.7	27.3%
Newsprint/paper	1,464.5	19.0%	Coal-n.e.c.	581.7	19.9%
Nonmetallic minerals	814.9	10.6%	Basic chemicals	362.3	12.4%
Gravel	723.2	9.4%	Other foodstuffs	305.4	10.5%
Basic chemicals	557.5	7.2%	Nonmetallic minerals	239.9	8.2%

- Top 10 Commodity by Tonnage by Rail (2040)

Import			Export		
Commodity	KTons	% of total	Commodity	KTons	% of total
Newsprint/paper	2,861.7	24.9%	Other foodstuffs	1,574.1	26.9%
Fertilizers	2,787.0	24.3%	Newsprint/paper	1,293.0	22.1%
Gravel	1,239.0	10.8%	Basic chemicals	734.7	12.5%
Nonmetallic minerals	1,229.4	10.7%	Nonmetallic minerals	704.4	12.0%
Basic chemicals	715.5	6.2%	Chemical prods.	242.8	4.1%

Rail Tonnage – Incoming vs. Outgoing

Rail Tons **from** the Study Area (2011)



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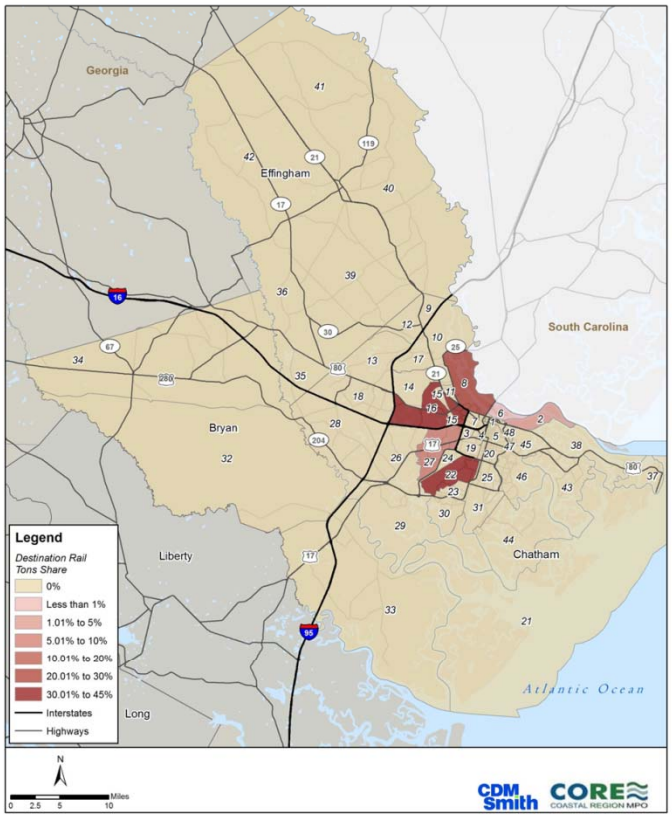
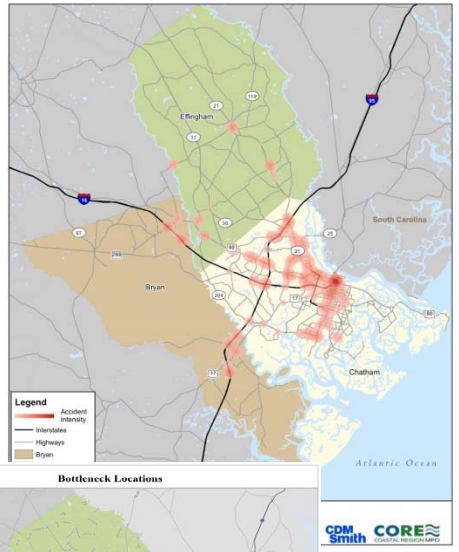


TM 2.3 Forecasting Future Growth

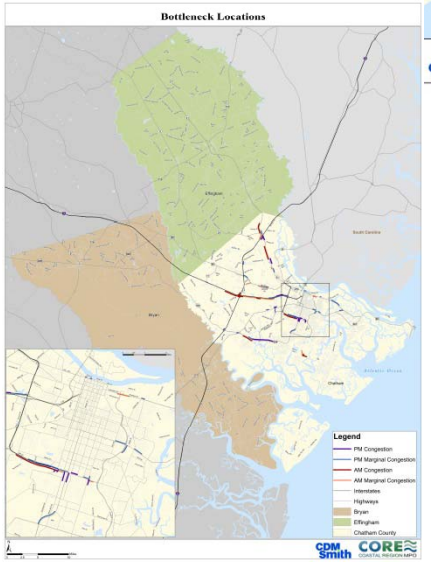
Additional Questions/Comments?

2.5 Freight Network Bottleneck, Safety Security Issues

- Safety and Security
  - “Hot Spots” were identified and analyzed
  - “Hot Spots” are locations with high truck crashes or rail related accidents



- Bottlenecks
  - AM and/or PM time period
  - Traffic direction
  - Level of service (LOS) grade from the survey
  - Weighted according to AADT on the segment

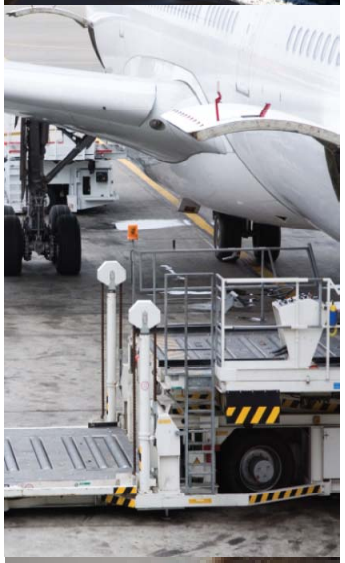


“Hot Spot” Methodology

- Crash Density Mapping
- Hot Spot Segment Identification
  - Data Processing and Definition of ‘Segment’
  - Crash Severity Index

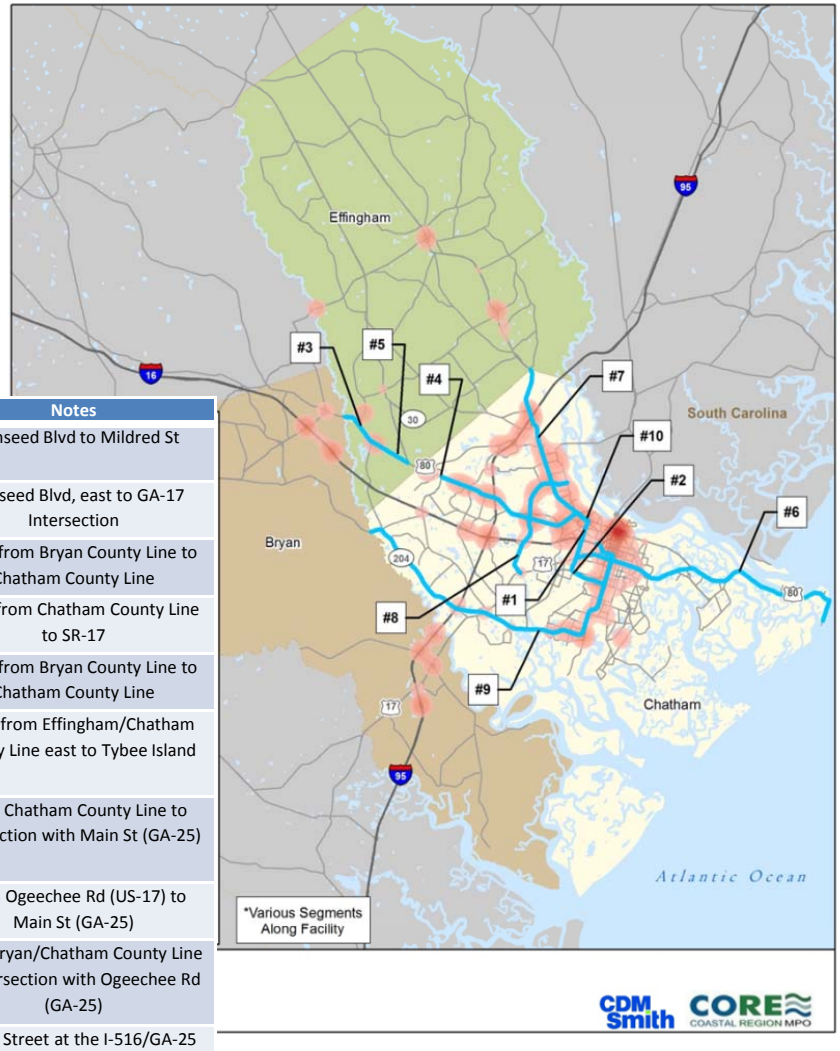
Rating	Crash Severity	Facility Type (FC)
1	PDO, 0 Fatalities, 0 Injuries	FC Lower than State Highway
2	0 Fatalities, 1 Injury	State Highway
3	0 Fatalities, >= 2 Injuries	US Highway
4	>= 1 Fatality	Interstate

  - Total Crash Counts and Final Ranking



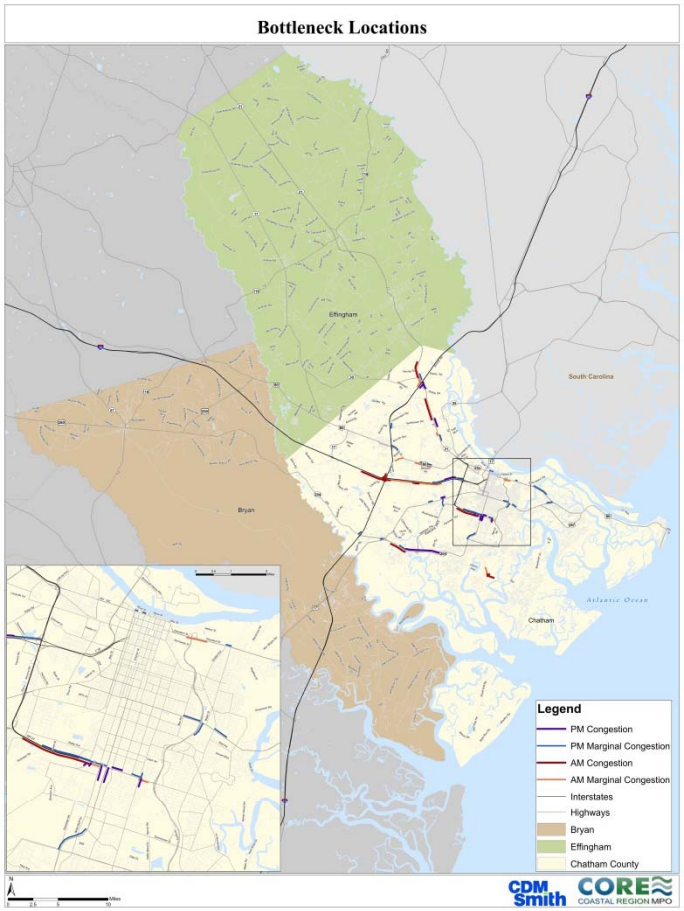
“Hot Spot” Results

Rank	Segment Name	Scoring	Notes
1	Augusta Rd/GA-21	3.5, 184 crashes on-segment. See *Note	Burnseed Blvd to Mildred St
2	Augusta Rd/GA-21	3.5, 184 crashes on-segment. See *Note	Burnseed Blvd, east to GA-17 Intersection
3	US 80	3.5, 10 crashes on-segment	US 80 from Bryan County Line to Chatham County Line
4	US 80	3.5, 5 crashes on-segment See *Note	US 80 from Chatham County Line to SR-17
5	US 80	3.5, 2 crashes on-segment	US 80 from Bryan County Line to Chatham County Line
6	US 80	3.0, 184 crashes on-segment	US 80 from Effingham/Chatham County Line east to Tybee Island
7	Augusta Rd/GA-21	3.0, 184 crashes on-segment	From Chatham County Line to intersection with Main St (GA-25)
8	Dean Forest Rd	3.0, 109 crashes on-segment	From Ogeechee Rd (US-17) to Main St (GA-25)
9	State Route 204	3.0, 64 crashes on-segment	From Bryan/Chatham County Line to intersection with Ogeechee Rd (GA-25)
10	West Bay St	3.5, 184 crashes on-segment. See *Note	W Bay Street at the I-516/GA-25 Intersection



Bottleneck Methodology

- AM and/or PM time period
- Traffic direction
- Level of service (LOS) grade from the survey
- Weighted according to AADT on the segment



Bottleneck Results

AM Congestion with PM Marginal Congestion

Rank	Segment Name	Level of Service (Worst-Case Daily)	Notes
1	Fort Argyle Rd/Abercorn St	"F" for both Eastbound and Westbound Segments	From Sweetwater Station Drive to King George Blvd. This is the only facility showing AM Congestion and PM Marginal Congestion in the study area.

AM and PM Marginal Congestion

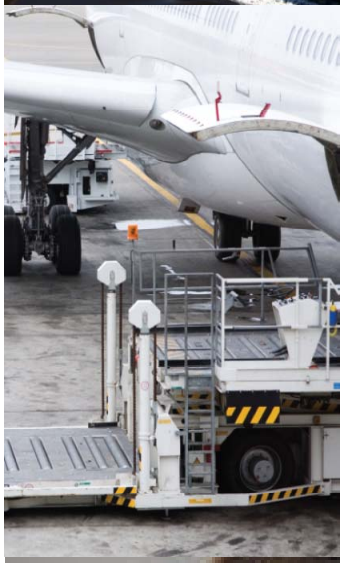
Rank	Segment Name	Level of Service (Worst-Case Daily)	Notes
1	US 80	"D" for Eastbound and "E" for Westbound	From Dean Forest Rd to Griffin Ave. This is the only facility showing AM and PM Marginal congestion in the study area.

Bottleneck Results

AM Congestion

Rank	Segment Name	Level of Service (Worst-Case Daily)	Notes
1	Diamond Cswy	“F” for Northbound and “D” for Southbound	From Ferguson Ave to Pin Point Ave
2	Ferguson Ave	None Available	From Pin Point Ave to Diamond Cswy
3	Fort Argyle Rd	“F” for Eastbound and Westbound	From Ford Ave to Sweetwater Station Drive
4	I-16 Eastbound	“F” and “E” for Eastbound Segments	12 Segments included; From Pooler Parkway to I-95
5	I-16 Eastbound Ramp	“F” and “E” for Eastbound Segment	Ramp to Eastbound I-16 at Dean Forest Road






Bottleneck Results

PM Congestion

Rank	Segment Name	Level of Service (Worst-Case Daily)	Notes
1	Abercorn St	“E” Eastbound and Westbound	From Janet Dr to East DeRenne Ave
2	Augusta Rd	“F” Northbound and Southbound	From Hendley Rd to I-95 NB Onramp
3	I-95 Off ramp	“A” and “B” for ramp segments	At Exit #109 to Augusta Rd
4	Ogeechee Rd	“D” and “F” for Eastbound and Westbound segments	Chatham Parkway to Red Gate Farms Rd
5	Waters Drive	“E” for Northbound and “C” for Southbound	From Althea Pkwy to E De Renne Ave

TM 2.5 Freight Network Bottleneck, Safety Security Issues

Additional Questions/Comments?

4 Economic Development Market Assessment

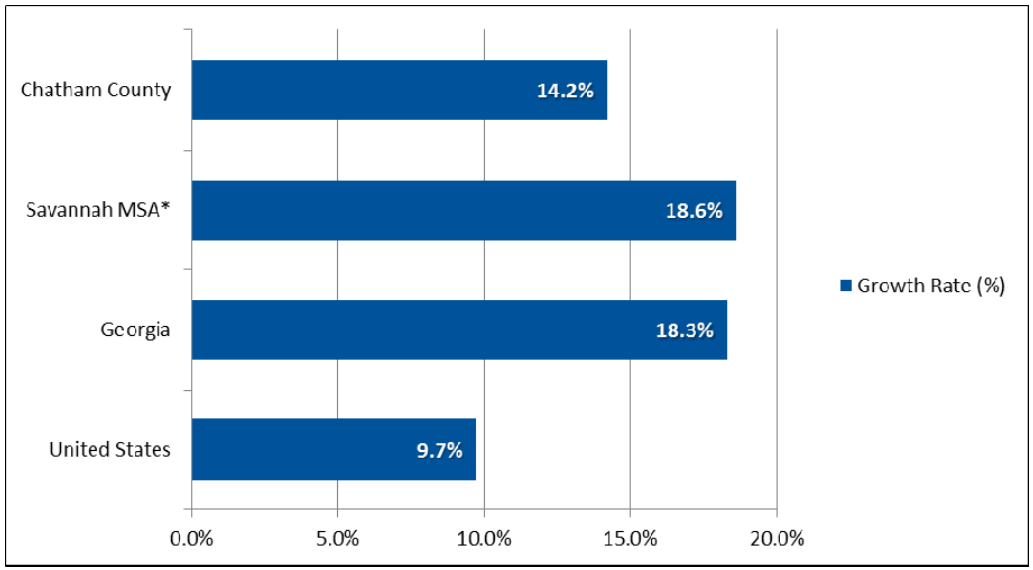
- Economy and Population
- Economic Role of Freight
- Supply Chain and Transportation
- Areas of Future Growth

Economy and Population

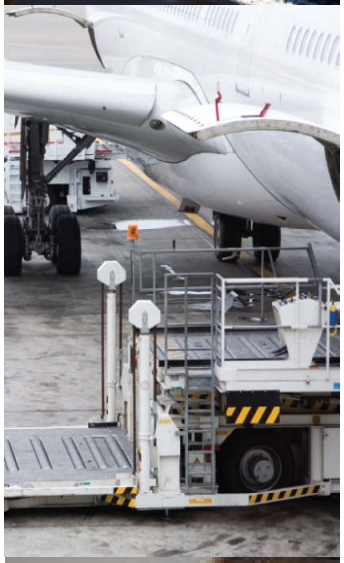
- Population Growth (2010 – 2030)

Population Area	2010	2020	2030	Population Growth (2010 – 2030)
Chatham County	265,128	306,088	354,945	33.9%
Savannah MSA	347,611	407,571	477,917	37.5%
Georgia	9,687,653	11,326,787	13,154,530	35.8%

- 10-Year Population Growth Rates (2000 – 2010)








Economic Role of Freight

Top Fifteen Manufacturing Companies and Commodities

Company	Commodity/Service
Gulfstream Aerospace Corporation	Jet aircraft, Aerospace equipment
International Paper	Paper products, Chemicals, Corrugated containers and packaging
JCB Americas, Inc.	Agricultural equipment, Construction equipment
Imperial Sugar	Refined sugar
Brasseler USA, Inc.	Dental instruments
Mitsubishi Power Systems Americas, Inc.	Power plant gas and steam turbines
Weyerhauser	Bleached pulp
Derst Baking Company	Bread, rolls, cakes
Diamond Crystal Brand	Salt, Pepper, Sugar packaging
Roger Wood Foods	Smoked sausages, Smoked meats
Kerry Ingredients and Flavours	Formulation, manufacture, and containerization of technological-based flavors, ingredients, and integrated solutions
Savannah Morning News	Information company
Arizona Chemical	Specialty resins, Pine-based chemicals
EMD Chemical	Industrial pigments
Orafol	Adhesive film

Source: Savannah Economic Development Authority, April 2014

Economic Role of Freight

Transportation and Warehousing Companies and Commodities

Company	Commodity/Service
CSX Transportation	Freight Railroad
Home Depot	Home improvement supplies
Dollar Tree Stores	Sundry retail product distribution
Coca-Cola Bottling Company United	Soft drink/water bottling warehouse
Target	Sundry retail import center
Pier 1 Imports	Household goods
Schneider	Warehousing, Distribution, Export Packaging
CalCartage	Warehousing for K-Mart
Chatham Steel Corporation	Steel service center
IKEA Wholesale Inc.	Furniture distribution

NOTE: As determined by number of employees.

Source: Savannah Economic Development Authority, April 2014

Labor Force and Employment

Distribution Company Employment

Company	Employment Numbers
Gulfstream Aerospace Corporation	9,382
Georgia Ports Authority*	988
International Paper	600
JCB Americas, Inc.	558
Imperial Sugar	450
Brasseler USA, Inc.	420
Mitsubishi Power Systems Americas, Inc.	420
CSX Transportation	308
Derst Baking Company	273
Dollar Tree Stores	271

** Georgia Port Authority is classified as under the government industry because it is not a private company.*

Source: Savannah Economic Development Agency, 2014.

Highest Level of Education of the Labor Force in the Savannah MSA

Education Level	Percentage Share
Elementary	3.5%
Some High School	10.5%
High School/GED	31.6%
Some College	23.5%
College Grad 2 year	7.1%
College Grad 4 year	15.9%
Post Grad Studies	7.9%
Total	100%

Source: Georgia Department of Labor. 2013. Chatham County Area Labor Profile

Employment – Residence Commuting Patterns (2010)

Employed Residents of Chatham County		Persons Work in Chatham County	
County Where Employed	**Percentage of Share**	**County of Residence**	**Percentage of Share**
Chatham, GA	93.6%	Chatham, GA	74.6%
Liberty, GA	1.3%	Effingham, GA	9.0%
Effingham, GA	1.3%	Bryan, GA	4.9%
Beaufort, SC	1.2%	Liberty, GA	2.8%
Bryan, GA	0.7%	Bulloch, GA	2.5%
Bulloch, GA	0.2%	Beaufort, SC	1.1%
Jasper, SC	0.2%	Jasper, SC	0.7%
Glynn, GA	0.1%	Long, GA	0.3%
Other	1.3%	Other	4.1%
Total	100%	**Total**	100%

Source: Georgia Department of Labor, 2013. Chatham County Area Labor Profile

Supply Chain and Transportation Trucks

- Georgia Domestic Truck Volumes (in 2012)

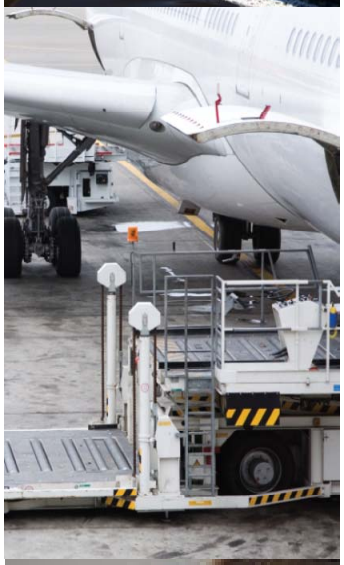
Freight Movement Direction	Freight Weight (in Tons)	Cargo Value	Number of Truck Freight Movements
Inbound to Georgia	97,490,043	$363.82 Billion	8,213,232
Outbound to Georgia	111,713,106	$338.12 Billion	8,687,179
Moved Inside Georgia	203,312,198	$325.90 Billion	21,340,695
Passed Through Georgia	185,345,836	$765.50 Billion	10,403,516
Total	597,861,184	$1.79 Trillion	48,644,621

Source: Georgia Center of Innovation for Logistics. 2013 Georgia Logistics Report.

- Chatham County Truck Volumes (in 2013)

Truck Freight	Inbound	Outbound
Weight (In Tons)	8,115,841	23,030,519
Value	$18,148,574,000	$43,320,545,645
Number of Truck Freight Movements	1,125,243	1,253,618

Source: Georgia Center of Innovation for Logistics. 2013. Chatham County Logistics Spotlight



Supply Chain and Transportation
Rail

Chatham County Rail Volumes (in 2013)

Rail Freight	Inbound	Outbound	Within
Weight (In Tons)	2,958,165	1,709,255	4,664,517
Value	$6,447,396,538	$4,078,182,862	$4,707,837,793
Number of Truck Freight Movements	37,961	20,878	52,350

Source: Georgia Center of Innovation for Logistics. 2013. Chatham County Logistics Spotlight

Supply Chain and Transportation Seaport

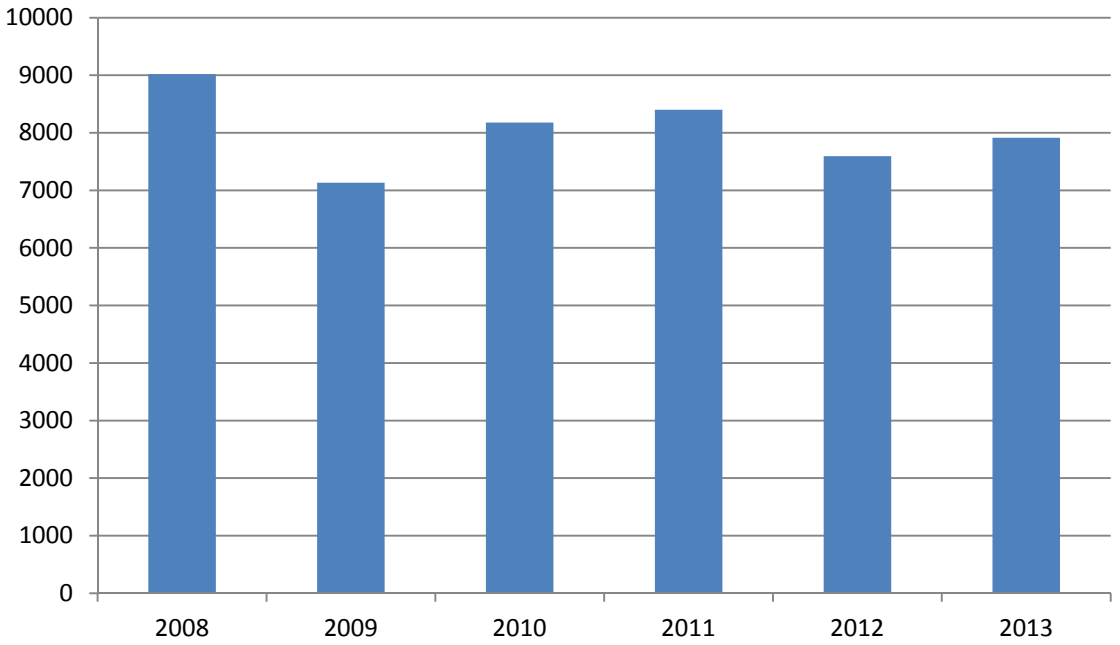
Top Ten Exports and Imports (in 2012)

	Exports		Imports	
Rank	**Commodity**	**Amount (in TEUs)**	**Commodity**	**Amount (in TEUs)**
1	Wood pulp	178,654	Furniture	143,412
2	Food	157,531	Retail and consumer goods	132,244
3	Paper and paperboard	144,710	Machinery, appliances, and electronics	121,482
4	Clay	97,054	Hardware and housewares	98,877
5	Automotive	87,778	Automotive	96,576
6	Machinery, appliances, and electronics	80,760	Food	80,078
7	Fabrics/raw cotton	74,877	Apparel	55,800
8	Chemicals	73,871	Toys	49,666
9	Retail and consumer goods	63,299	Minerals	49,373
10	Resins and rubber	61,021	Chemicals	36,436
	Other	214,324	Other	220,900
	Total	1,233,877	**Total**	1,084,844

Source: Georgia Center of Innovation and Logistics. 2013 Georgia Logistics Report

Supply Chain and Transportation
Air

Air Cargo at Savannah/ Hilton Head International Airport
(Freight/Express Mail in Tons)



Economic Contributions from Port of Savannah

- $66.9 billion in sales
- $32.4 billion in state GDP
- $18.5 billion in income
- 352,146 full- and part-time jobs
- $4.5 billion in federal taxes
- $1.4 billion in state taxes
- $1.1 billion in local taxes

- Port of Savannah's revenues account for 9.5 percent of the entire state of Georgia's total sales.
- Port related employment accounts for 8.3 percent of the total employment in the state

TM 4 Economic Development Market Assessment

Additional Questions/Comments?

CORE
COASTAL REGION MPO

BREAK

Workshop Exercise – Part I

- Overview of Task
  - Limitation because of lack of some jurisdiction's land use or zoning data

Zoning Classifications

- Future Land Use Categories
- Zoning Districts and Uses
- Board of Assessors
- Warehouse/Storage Locations

Workshop Exercise – Part II

- Exercise - Attendees would form break out groups of about four members and address the following questions:
  - What Warehouse/Storage existing or planned uses are not identified by the triangles (Warehouses) and “green and black lines”?
  - What are lands not now identified for freight industry uses that have potential for warehouse uses? (Please note areas on the maps)
  - What areas identified as freight areas but should not be based on a reality check (EJ area, impact on other land uses, poor transportation links, or other criteria)?

Next Steps

- Draft and Finish
  - Task 2.6 Freight Needs Assessment
  - Task 3 Land Use Assessment and Analysis
  - Task 4 Economic Development Market Assessment
  - Task 5 Environmental and Community Impact Scan and Analysis
- Conduct and Complete
  - Task 6 Recommendations for Future Land Uses Related to Freight Goods Movement Needs and Forecast
  - Task 7 Final Recommendations – Identification of Improvements, Strategies, and Solutions
- Discuss each of these task's outcomes with you
- Hold a workshop on *Recommendations*

Next FAC Meeting

- Mark your calendar – **Wednesday, December 3, 2014**
- Meeting location – any suggestions?

Freight Study Website

http://www.thempc.org/Transportation/FreightTransportationPlans.html

Thank You!