Regional Freight System Planning Recommendations

presented to

Chicago Metropolitan Agency for Planning

Freight Committee

presented by

Cambridge Systematics, Inc.

September 2, 2009

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Agenda

- Project Recap
- Status of Progress to Date
  - Stakeholder Outreach *(Task 7)*
  - Regional Freight Framework *(Task 1)*
  - Performance Measures *(Task 4)*
  - Policy Analysis *(Task 5)*
- Next Steps
- Committee Feedback

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Project Recap

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Project Scope

- Develop detailed recommendations for the freight system
  - Tie to GO TO 2040 Long Range Plan
  - Physical, operational, and institutional categories of recommendations
- Determine benefits and dis-benefits of projects
  - Public- and private-sector, modes, communities, etc.
- Determine economic impact of recommendations

Project Phases

Project Phase	Description	Task
Phase I	Framework (Freight Vision)	Task 1
Phase II	Data & Forecasting	Tasks 2 and 3
Phase III	Performance, Policy & Investment Analysis	Tasks 4 and 5
Phase IV	Recommendations	Task 6
Continuous Public Outreach		Task 7
Project Management & Delivery		Task 8

Stakeholder Outreach

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Stakeholder Interviews
Trucking Interests

- **Key Problem Areas**
  - Congestion in urban areas (The Loop)
  - Construction and construction zone management
  - Local restrictions on delivery times
  - Lack of parking
- **Recommended Solutions**
  - Better construction management
  - Better advanced traveler information
  - More parking
  - Policies to encourage night deliveries
  - Travel Demand Management strategies

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Stakeholder Interviews
Railroad Interests

- Heavy reliance on Chicago as a place to exchange goods among Eastern-Western RRs
- Still anticipating significant growth in intermodal freight
- CREATE covers many of the major rail bottlenecks
- Seeing innovations among freight exchange coordination/tracking (i.e. rail business exchange)
- Trends of longer trains, more through trains in Chicago, more prioritized loads
- Strong appreciation for CMAP/CATS coordination with RRs to date

59th Street Intermodal Terminal (MiLord Company)

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Stakeholder Interviews
Business Interests

- **Delivery challenges due to local restrictions (time and route)**
- **Frustration over oversize/overweight permit requirements**
  - **Local and county permits adding up to approx. $40-50 per container for loads entering Logistics Park Chicago in Elwood**
- **Roadway condition and congestion levels seen as problematic but not a major cost impact**
- **Grain supply chain (NE IL to Asian markets) showing growth**

Grain Silo in Lockport on Illinois River (Jim Frazier)

Stakeholder Interviews
Remaining Outreach

- **Additional interviews with waterborne freight stakeholders**
  (IL River Carriers Assoc. meeting 9/8)
- **Group interview with aviation stakeholders (Tentatively 9/16)**
- **Council of Mayors Executive Committee (meeting 9/15)**
- **Additional business interviews**

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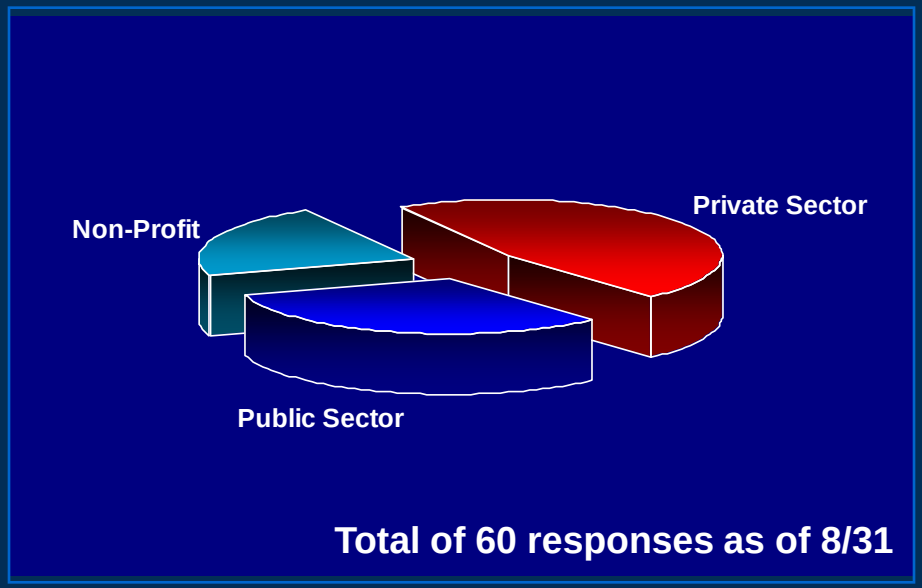
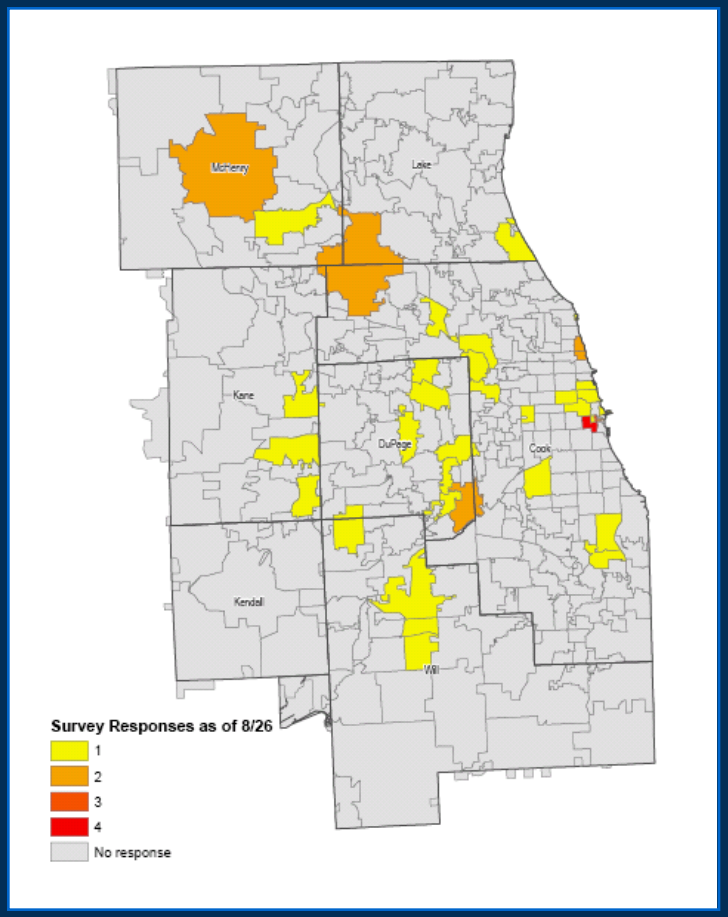
Freight Survey

RESPONSES



Total of 60 responses as of 8/31

DISTRIBUTION



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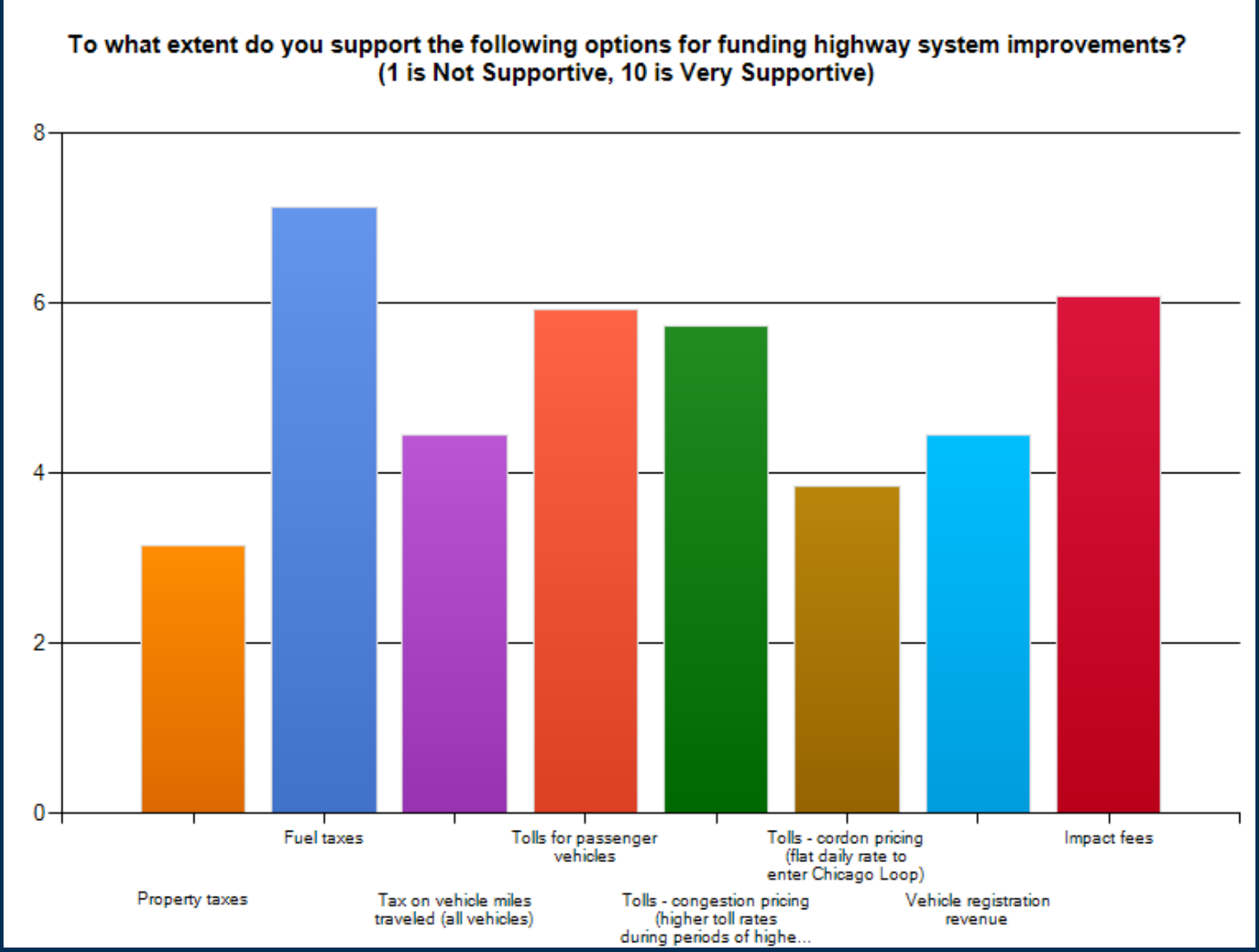
Freight Survey
Preliminary Funding Prioritization



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Framework

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Freight Transportation System Elements

Source: Cambridge Systematics

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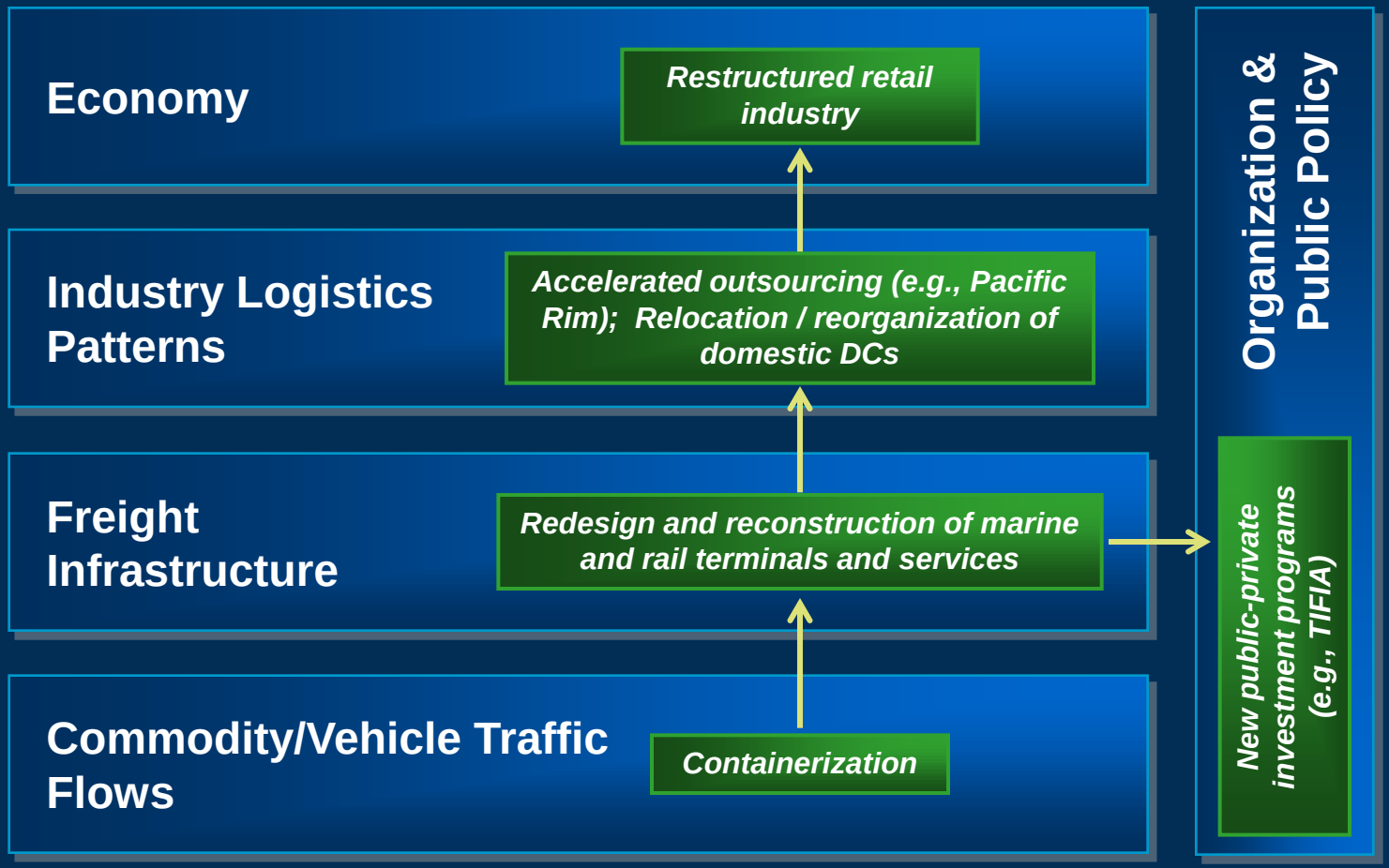
Industry Perspective
Example: Introduction of Containerization



Source: Cambridge Systematics

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Draft Framework
Guiding Themes for Recommendations

- **August 11th Charrette**
- **Laid a foundation for a *first draft* of guiding principles for freight system planning**
  - **Address each "element" of the freight system**
  - **Complement Go To 2040 Regional Vision**
  - **Forward thinking**

In 2040 the Chicago region will…

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Economy
Freight Transportation System Element

- **Issues and Opportunities**
  - **What are the critical sectors for economic growth?**
  - **How dependent are they – directly or indirectly – on freight transportation?**
  - **What are the implications of structural changes in the Chicago economy for freight demand and services?**

Economy
Draft Framework Theme

In 2040, the Chicago region's freight system will contribute to the growth, productivity, and changing needs of business and industry by providing cost-effective and reliable access to resources, markets, and labor.

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Industry Logistics Patterns
Freight Transportation System Element

- **Issues and Opportunities**
  - **What are implications of changing logistics strategies for Chicago's role as …**
    - **an intermodal hub?**
    - **a distribution center?**
    - **a service and manufacturing economy?**
  - **Will the next generation logistics strategies bypass Chicago?**

Industry Logistics Patterns
Draft Framework Theme

In 2040, the Chicago region will serve as an International hub for goods movement.

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Freight Infrastructure
Freight Transportation System Element

- **Issues and Opportunities**
  - **How well does Chicago's existing freight infrastructure match today's industry and carrier needs (e.g., fit to function)?**
  - **Where are reinvestment and new investment needed to serve 2040 industry and carrier needs?**
    - **South Suburban Airport? CREATE for trucks? Truck-only lanes? Intermodal connectors that connect? Lock improvements?**

Freight Infrastructure
Draft Framework Theme

In 2040, the Chicago region's freight infrastructure will provide seamless, efficient connections to markets beyond the region's/state's borders, throughout North America, and to the world.

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Commodity/Vehicle Flows
Freight Transportation System Element

- **Issues and Opportunities**
  - **Is the current level of service (e.g., trip travel times, cost, reliability) acceptable and sustainable?**
  - **Where will bottlenecks and chokepoints emerge as population and economic activity increase?**
  - **Would congestion pricing (applied to all vehicles) improve freight service within and through the region?**

Commodity/Vehicle Flows
Draft Framework Theme

In 2040, the Chicago region's freight system will have operational capacity to accommodate highway, rail, water, and air freight commodity and vehicle flows.

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Organization & Public Policy
Freight Transportation System Element

- **Issues and Opportunities**
  - **Is there a "Chicago model" for re-linking transportation planning and investment to economic development and social and environmental goals**
    - **CREATE? Midwest High-Speed Rail? Chicago Metropolis 2020, CMAP, "new freight authority"?**
  - **How should the "Chicago model" deal with freight-related land use and development? The balance between moving people and moving goods?**
  - **How should freight infrastructure, operations, and mitigation be financed?**

Organization & Public Policy
Draft Framework Theme

In 2040, the Chicago region's public and private freight stakeholders will have shared goals and priorities on the process used for identifying the region's freight system needs, priorities, and making investment decisions.

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Environmental and Community Impacts
Draft Framework Theme

In 2040, public and private freight stakeholders will contribute positively to the quality of life in metropolitan Chicago.

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Performance Measures

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Performance Measures *(Task 4)*

- **Objective: Establish basic performance measures that will aid in identifying freight needs and deficiencies and guide the development of recommendations.**

- **Approach:**
  - **Literature review**
  - **Explore importance of measures to stakeholder groups**
  - **Develop draft performance measures to complement CMAP Regional Indicators**

Goal Areas

- Established to categorize measures – address all areas of importance to all stakeholders
- Tied to AASHTO and FHWA thinking on National Performance Measurement

- System Preservation
- Mobility
- Connectivity / Accessibility
- Safety
- Environment / Community
- Economic Growth

Draft Freight Planning Performance Measures

Tied to Goal Area

Tied to Stakeholder Group

Tied to Framework Themes / Policy Development

Performance Measure	Goal Areas	Useful for				Policy Areas					
		Government	Carrier	Other Businesses	Public	Economy	Ind. Log. Patterns	Freight Infra.	Commodity/ Veh. Flows	Org./ Pub. Policy[b]	Env./ Comm.
Arterial road network accessible to legal freight vehicles	Accessibility	●	●	◑	◑	○	○	●	●		◔
Intermodal facilities with NHS roadway, rail access	Accessibility	●	●	◕	◑	◔	○	●	◑		◔
Major generators within X miles or minutes of interstate, four-lane highway, or intermodal facility	Accessibility	●	●	●	◑	◔	●	●	◑		●
Percent of goods moved with option of more than one modal choice	Accessibility	●	●	●	◑	◔	●	●	◑		◑
Track-miles with 286,000-pound railcar capacity rating[a]	Accessibility	●	◕	◑	◔	○	○	●	◔		◔
Condition rating for NHS intermodal connectors[a]	Accessibility; System Preservation	●	●	◕	●	○	○	●	◔		○
Dollar losses due to freight delays	Economic Development	●	●	●	●	●	○	●	◔		○
Geographic market share	Economic Development	●	●	●	●	●	●	○	◔		○
GRP[a]	Economic Development	●	○	◑	◕	●	○	○	○		○
Value of goods exported annually versus value of goods imported[a]	Economic Development	●	●	●	●	●	◑	○	○		○
Regional truck VMT or TMT per unit of regional economic activity/output	Economic Development; Mobility	●	◑	◑	◑	●	○	◔	◕		◔
Ton-miles per emissions output	Env./Comm.	●	◔	◔	◕	○	◔	◕	◔		●
Ton-miles per gallon of fuel	Env./Comm.	●	◕	◕	◕	◔	◔	◕	◑		●
Average number of hours with 20% of VMT congested[a]	Mobility	●	◕	◕	◕	○	○	●	◑		○
Delay per ton-mile traveled	Mobility	●	◕	◕	◕	○	○	●	◑		○
Lift capacity (annual volume)	Mobility	◔	●	◕	◔	◔	○	●	◑		○
Mobility index (ton-miles of travel/vehicle miles of travel times average speed)	Mobility	●	◕	◑	◕	○	○	●	◑		○
Mode share (tonnage and value)	Mobility	●	◑	◑	◕	○	◑	◑	◕		◑
Truck VMT or TMT at LOS D or above	Mobility	●	◕	◕	◕	○	○	●	◕		○
Planning Time Index: "worst" time as compared to free-flow travel time[a]	Mobility	●	●	◕	●	○	○	●	●		○
Travel time averages and variations[a]	Mobility	◕	●	◕	◑	○	○	●	●		◔
Tons of commodity undergoing intermodal transfer	Mobility	●	◑	◑	◑	◑	◕	◕	◔		○
Travel time index	Mobility	●	◑	◕	●	○	○	●	◑		○
Vehicle classification by time of day; % trucks offpeak[a]	Mobility	●	◑	◑	◕	○	○	◔	●		○
Vehicle-miles of delay for at-grade crossings[a]	Mobility	●	◕	◑	●	○	○	●	●		○
Exposure (truck AADT and daily trains) factor for rail crossings	Mobility; Safety	●	◕	◑	◕	○	○	●	◕		○
Average crash cost per trip, VMT, or TMT	Safety	●	◕	◑	◕	○	○	◑	○		●
Fatalities or crashes involving large trucks per truck VMT	Safety	●	◑	◑	●	○	○	◑	○		●
Grade crossing accidents/product of million train-miles and trillion vehicle-miles traveled	Safety	●	◑	◑	●	○	○	◑	○		●
Number of heavy truck-related fatalities (three-year average)	Safety	●	◑	◑	●	○	○	◑	○		●
Rail-related fatalities per train-mile	Safety	◕	◑	◑	◕	○	○	◑	○		●
Percentage of truck VMT on roads with pavement worse than X	System Preservation	●	●	◕	◕	○	○	●	◔		○

○ Little or No Relationship ◔ Some Relationship ◑ Moderate Relationship ◕ Strong Relationship ● Very Strong Relationship

[a] Measures from CMAP GoTo 2040.

[b] Organization and Public Policy strategies encompass and promote all other strategies, and therefore have no "explicit" performance measures.

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Policy Analysis

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Policy Analysis *(Component of Task 5)*

- **Objective: Develop and analyze potential policies that can move forward to recommendations.**
- **Approach:**
  - **Develop "Bundles" of potential policies**
  - **Group into framework "Theme" areas**
  - **Evaluate the feasibility and effectiveness of policies and determine which move into recommendations.**

Policy Analysis
Trucking Interests - Nighttime delivery restrictions

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Next Steps

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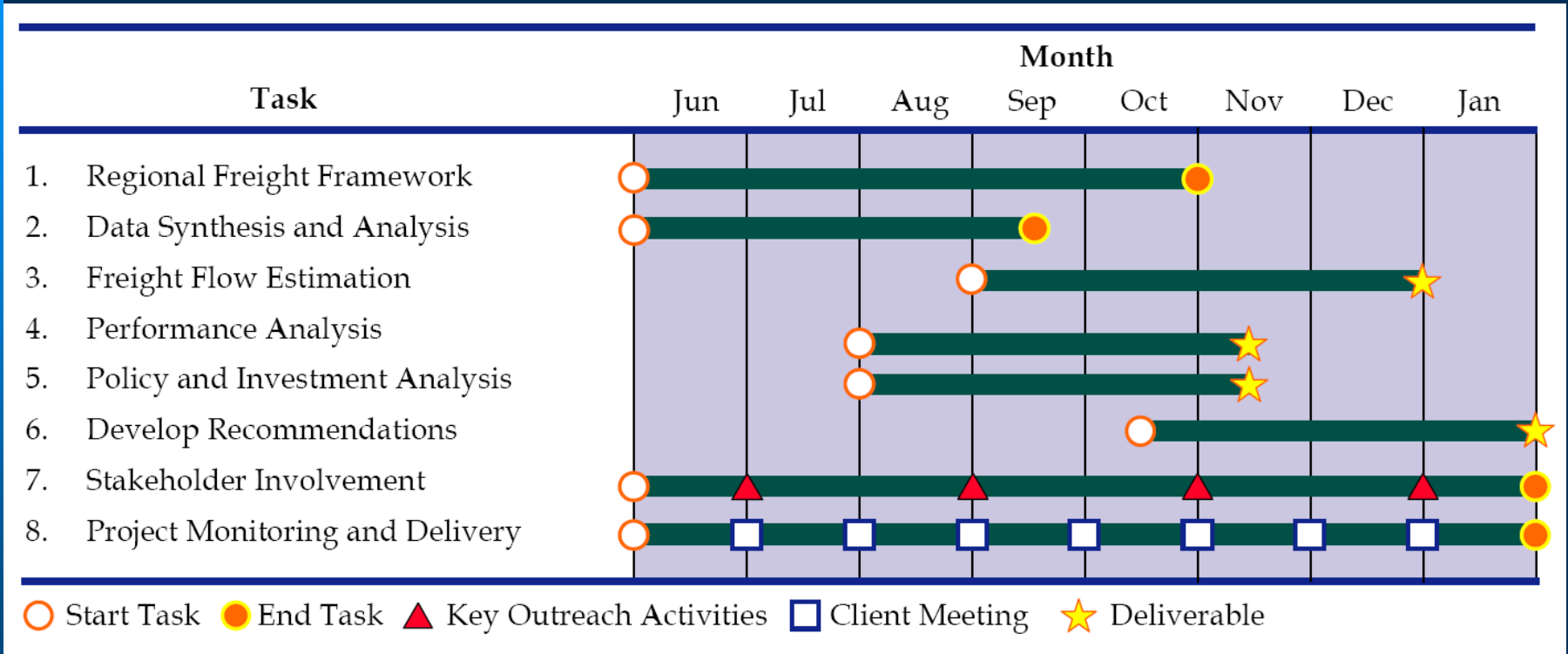
Project Schedule



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Next Steps

- On-going:
  - Stakeholder Meetings
  - Existing Data Synthesis (Tech Memo Due Sept 15th)
  - Performance Measurement
  - Policy Analysis
- Starting Up:
  - Economic Analysis
  - Transearch Data Analysis

Freight Committee
Meeting Schedule/Topics

Meeting Date	Topic of Discussion
July 16, 2009	Introduce committee to project with overview of scope, schedule, and outline committee expectations. Present data collection underway.
September 2, 2009	Present update on stakeholder outreach. Discuss freight planning framework themes from Charrette. Discuss work underway on performance measures and policy analysis.
October 14, 2009	Update on Transearch data analysis. Present results-to-date of performance and policy analyses. Discuss initial work on economic and benefits assessment.
December 3, 2009	Provide an overview of the final Freight System Planning Recommendations.

Freight Committee Feedback

- Do you agree with the Framework Themes?
- Do you have comments on the draft Performance Measures?
- Do you have comments on the draft Policy areas?

Please provide all comments by September 25th.

Contacts

- **Project Website**
- **Freight Committee Website**
- **Contact:**

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Freight Investments Can Be Used to Shape the Greater Chicago Economy and Drive Development

Source: Cambridge Systematics

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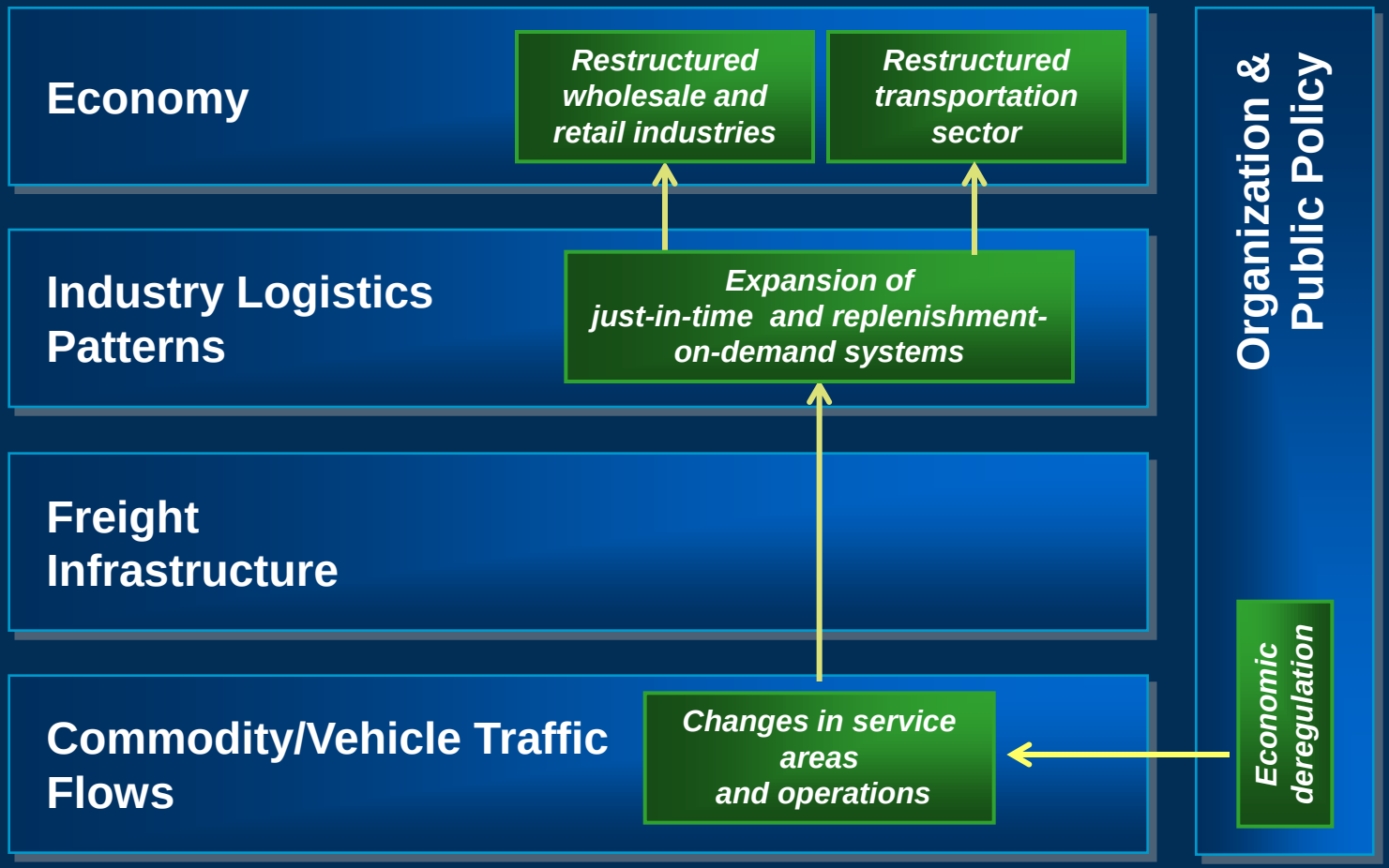
Public Perspective
Example: Economic Deregulation of Freight Industry



Source: Cambridge Systematics

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Data Collection

Population and Land Use

Municipalities/Counties

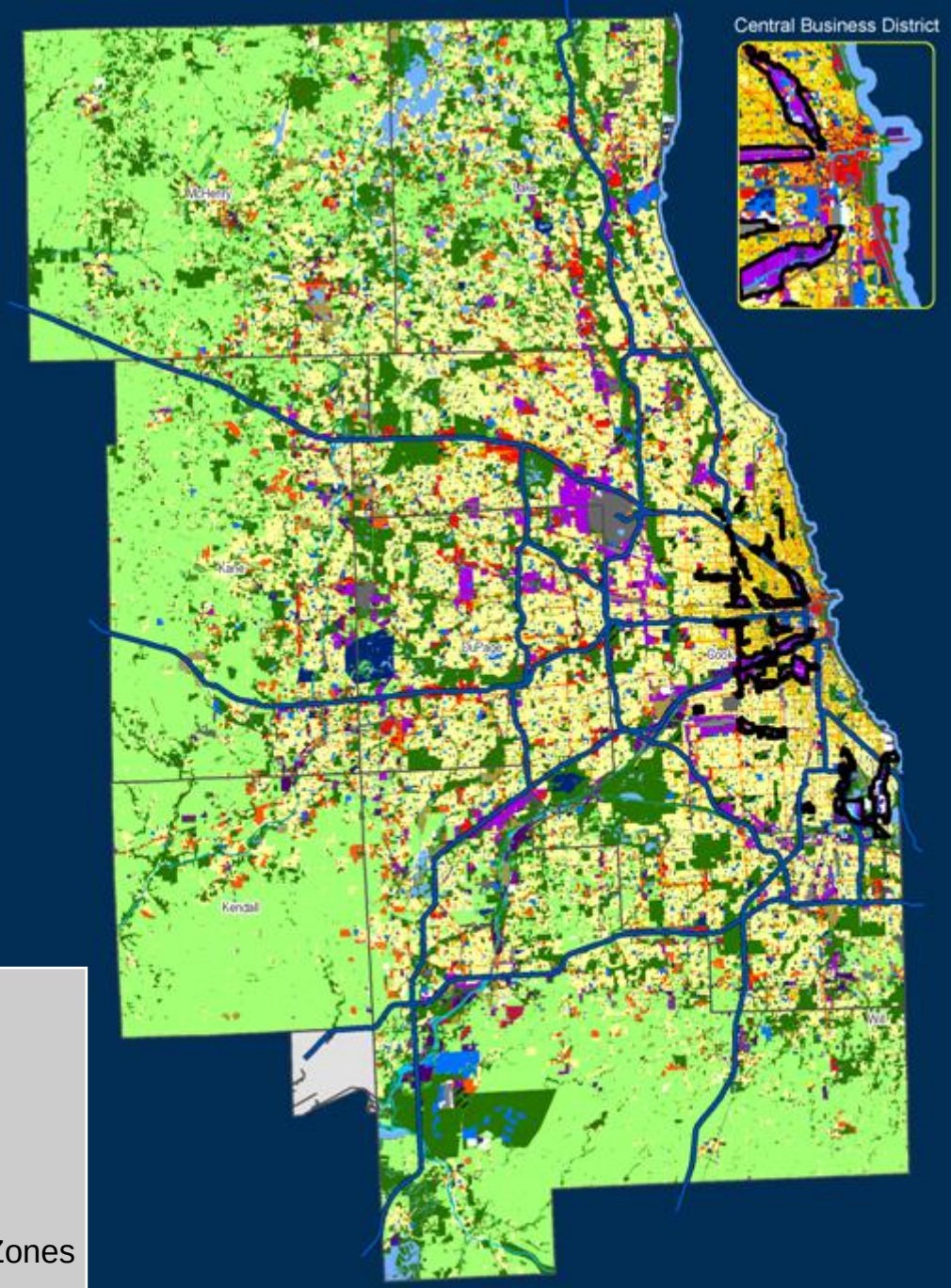
Land Use (2005)

Chicago Industrial Corridors

Freight-Related Businesses

Population Density

Employment Density



Data Collection

Freight Infrastructure

- Interstate Highways
- Secondary Roadways
- Structures
- Railways
- At-Grade Rail Crossings
- Intermodal Facilities/Container Yards
- Ports
- Airports