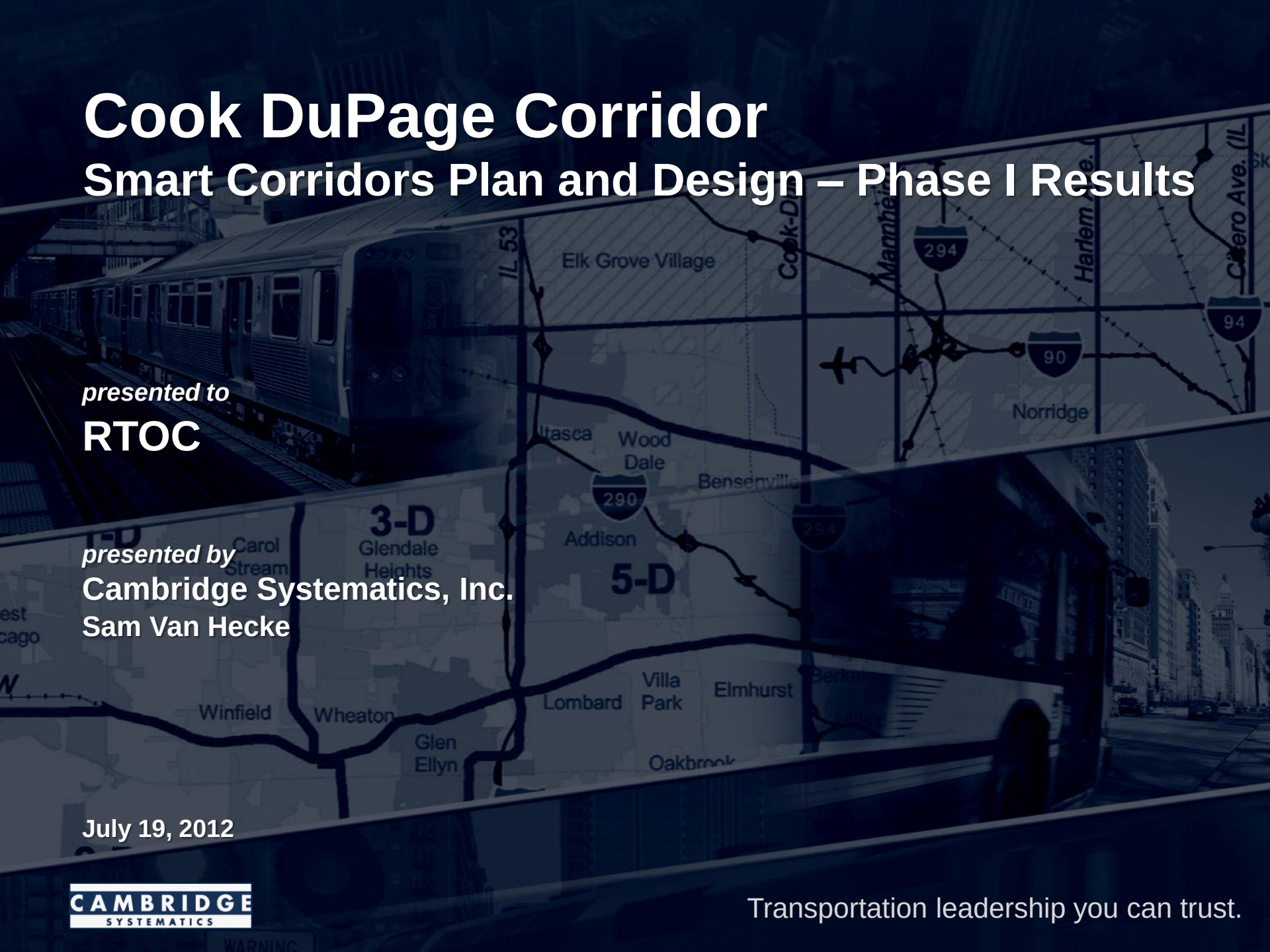
Cook DuPage Corridor

Smart Corridors Plan and Design – Phase I Results



presented to

RTOC

presented by

Cambridge Systematics, Inc.

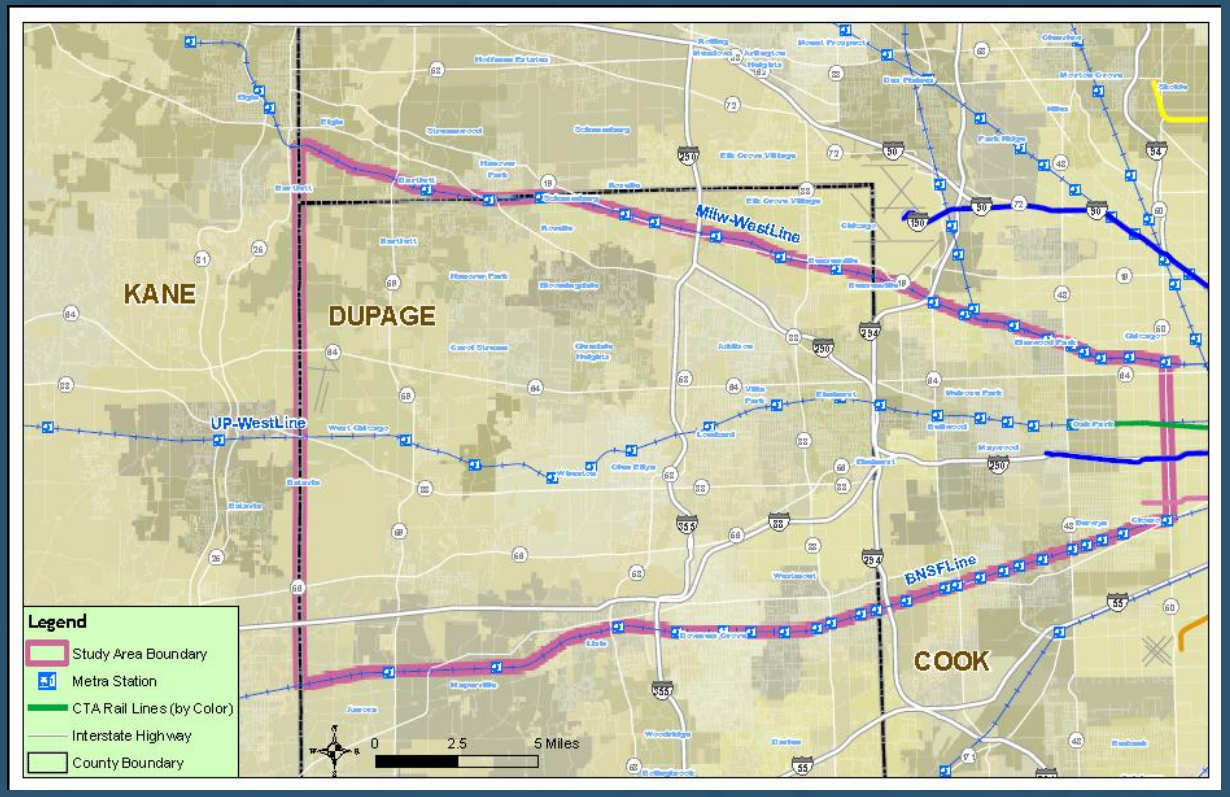
Sam Van Hecke

July 19, 2012

CAMBRIDGE SYSTEMATICS

Transportation leadership you can trust.

Study Area



Cook DuPage Corridor Planning Group

- CMAP
- CTA
- RTA
- Pace
- Metra
- IDOT
- CDOT
- Municipalities

Sponsors:
West Central Municipal Conference
DuPage County Mayors and Managers

CAMBRIDGE SYSTEMATICS

Smart Corridors Purpose and Goal

- **Purpose:**
  - » Improve travel for all modes (vehicles, freight and transit) through low cost operational/ITS solutions
- **Goal:**
  - » Evaluate and prioritize the candidate corridors (45) and select four for implementation and pilot projects

CAMBRIDGE SYSTEMATICS

Potential ITS and Operational Improvement

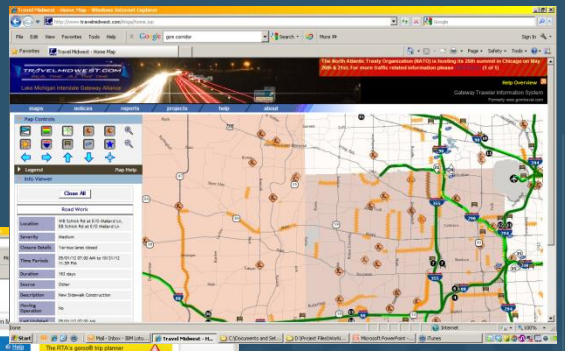
- **Traffic Management**
  - » Enhanced detection – Arterial Travel Times
  - » CCTV cameras
  - » Corridor signal coordination
  - » Corridor-wide management
  - » Work zone coordination

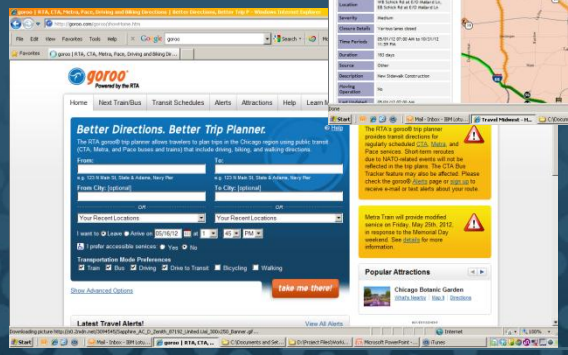
CAMBRIDGE SYSTEMATICS

Potential ITS and Operational Improvement

- **Improved Traveler Information**
  - » Arterial Dynamic Message Signs
  - » Earlier dissemination and information sharing between agencies – GoRoo/Travel Midwest
  - » Parking availability at park and ride lots
  - » Improved freeway, arterial and transit traveler information (pre-trip and en-route)
  - » Enhance mobile platform information

Google

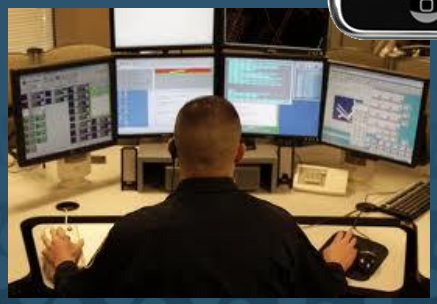




CAMBRIDGE SYSTEMATICS

Potential ITS and Operational Improvement

- **Incident Management**
  - » Reduced incident clearance times
  - » Incident signal retiming for arterials
- **Transit Management**
  - » Arterial TSP
  - » Roadside next bus arrival systems
  - » Smart parking system
  - » Special events coordination



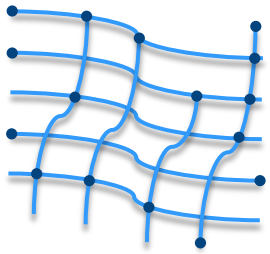
CAMBRIDGE SYSTEMATICS

Project Process
4 Steps to Reach Preliminary Design Stage

1

IDENTIFY CORRIDOR LIMITS

Purpose:
Ensure all corridors are logical candidates for Smart Corridor designation.

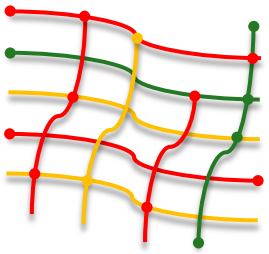


Decision Factors:
- Roadway network
- Transit locations
- Key nodes

2

PRIORITIZE ALL CORRIDORS (45)

Purpose:
Rank corridors based on evaluation criteria to identify strong candidates.

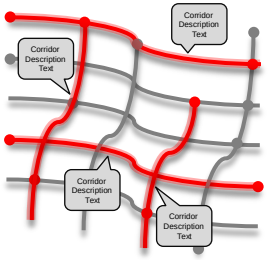


Decision Factors:
- Evaluation Criteria
- Data Collection

3

CORRIDOR CHARACTERISTIC DIAGRAMS (6-10)

Purpose:
Understand detailed potential benefits and impacts of strong candidates.

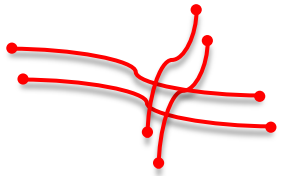


Decision Factors:
- Operational Review
- Tech Committee Guidance

4

SELECT SMART CORRIDORS (4)

Purpose:
Identify best Smart Corridor candidates for preliminary design.

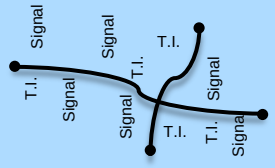


Decision Factors:
- Technical Review
- Tech Committee Guidance

Phase 2

CONCEPTUAL DESIGN

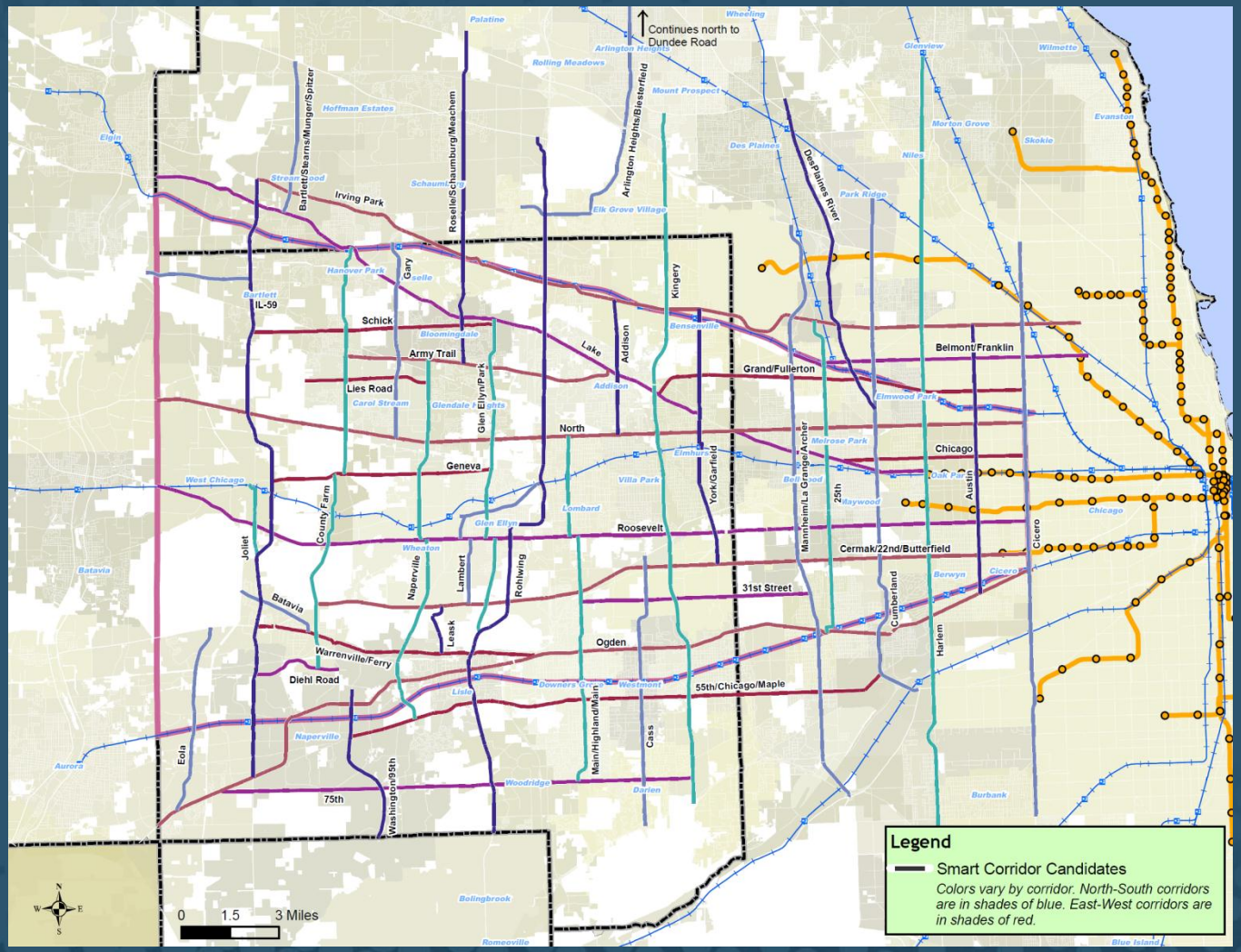
Purpose:
Generate conceptual design plans for each selected corridor.



Including:
- Concept of Operations
- Assessment of Existing Conditions
- Technology Scan
- Draft MOUs
- Concept Plans

CAMBRIDGE SYSTEMATICS

Corridor Limits



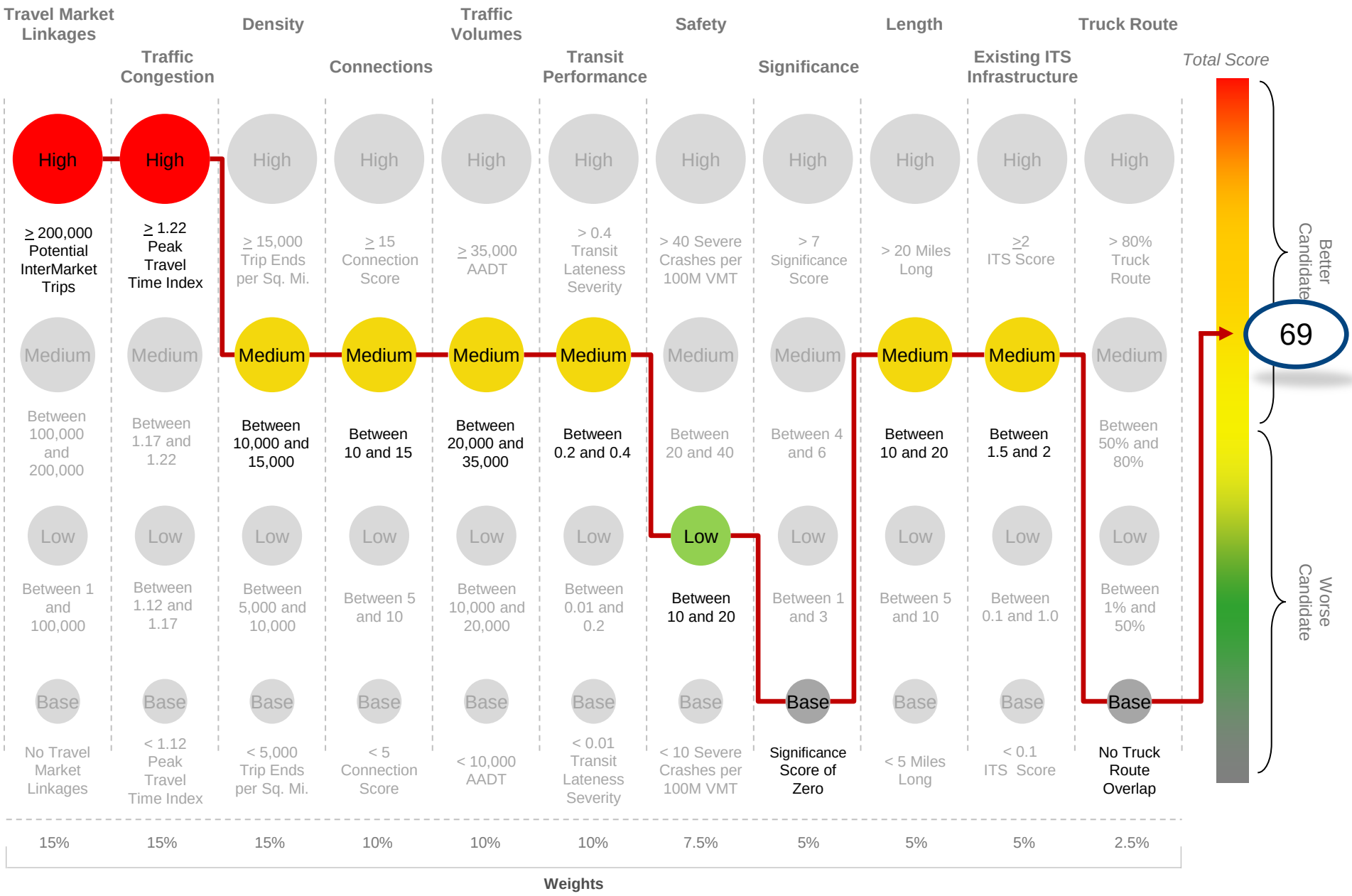
CAMBRIDGE SYSTEMATICS

Evaluation Criteria

- Length of Corridor
- Traffic Volume
- Population & Employment Density
- Transit Performance
- Corridor Connections
- Travel Market Linkages
- Congestion
- Corridor of Significance
- Existing ITS Infrastructure
- Safety
- Truck Route

CAMBRIDGE SYSTEMATICS

Scoring Example – Des Plaines River Road



Results Table – Top Scorers

Corridor	NE	Market Links	Traffic Congestion	Pop & Emp Density	Connections	Traffic Volumes	Transit Perf.	Safety	Significance	Length	ITS Infr.	Truck Rte	Score
Cicero Avenue	N	🔴	🔴	🔴	🔴	🔴	🔴	🟡	🟡	🟡	🟢	🔴	91
Harlem Avenue	N	🔴	🔴	🟡	🔴	🟡	🔴	🟡	🔴	🔴	🟡	🔴	87
Cermak/22nd/Butterfield	E	🟡	🔴	🟡	🔴	🟡	🔴	🟢	🔴	🔴	🔴	⚪	79
Lake Street	E	🔴	🔴	🟢	🔴	🟡	🟢	🟡	🟢	🔴	🔴	🟡	73
Mannheim/La Grange/Archer	N	🟡	🔴	🟢	🟡	🔴	🔴	🟢	🟡	🟡	🔴	🟡	72
Irving Park Road	E	🔴	🟡	🟡	🟡	🟡	🟢	🟡	🟡	🔴	🔴	🟢	70
North Avenue	E	🔴	🟡	🟢	🟡	🔴	🟢	🟢	🔴	🔴	🔴	🔴	70
Roosevelt Road	E	🔴	🟡	🟢	🟡	🔴	🟢	🟢	🔴	🔴	🔴	🟡	69
Des Plaines River Road	N	🔴	🔴	🟡	🟡	🟡	🟡	🟢	⚪	🟡	🟡	⚪	69
Arlington/Biesterfield	N	🔴	🔴	🟡	🟡	🟡	🟢	🟢	⚪	🟡	🔴	⚪	67
Cumberland/First/IL171	N	🔴	🟡	🟢	🔴	🟡	🟡	🟡	🟢	🟡	🟡	⚪	66
Ogden Avenue	E	🔴	🟡	🟢	🔴	🟡	🟢	🟡	⚪	🔴	🔴	🟢	66
Grand/Fullerton	E	🟡	🔴	🟡	🟡	🟡	🟡	🟡	⚪	🟡	🟢	⚪	65

CAMBRIDGE SYSTEMATICS

Decision Support Materials

Prioritization Results

Finalist Corridors Prioritization Results

Corridor	NE	Market Links	Traffic Congest-ion	Pop & Emp Density	Connect-ions	Traffic Volumes	Transit Perf.	Safety	Signifi-cance	Length	ITS Infr.	Truck Rte	Score
Harlem Avenue	N	H	H	M	H	M	H	M	H	H	M	H	87
Cermak/22nd/Butterfield	E	M	H	M	H	M	H	L	H	H	H	B	79
Mannheim/La Grange/Archer	N	M	H	L	M	H	H	L	M	M	H	M	72
Irving Park Road	E	H	M	M	M	M	L	M	M	H	H	L	70
North Avenue	E	H	M	L	M	H	L	L	H	H	H	H	70
Roosevelt Road	E	H	M	L	M	H	L	L	H	H	H	M	69
Ogden Avenue	E	H	M	L	H	M	L	M	B	H	H	L	66
IL53 (Rohlwing)	N	H	M	L	H	L	M	L	B	H	H	M	64
IL59	N	H	M	L	L	H	L	L	M	M	H	H	63

Note: NE = North/South or East/West (N= North/South, E=East/West), H=High, M=Medium, L=Low, B=Baseline

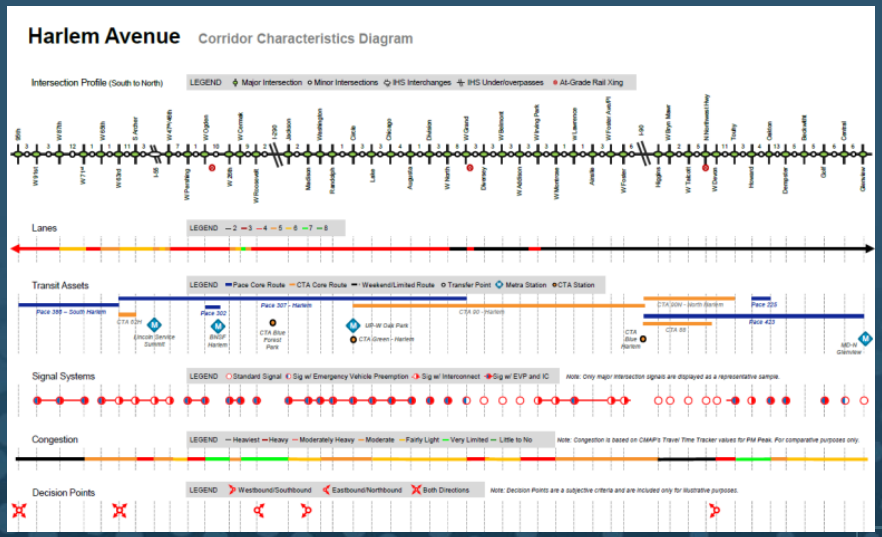
Corridor Descriptions

HARLEM AVENUE

Description	The Harlem corridor as it is defined is the longest north-south corridor, running from 95th Street up to Glenview Road. It varies in character several times during this length. The corridor begins at a cloverleaf interchange with Highway 12/20 near I-294 and continues north through mixed residential and commercial areas in Bridgeview. The corridor passes Toyota Park (home of the Chicago Fire) and the Beford Park Rail Yard. Traffic volumes are high approaching I-55 from the south w/ Summit on the west and Chicago on the east. After crossing the Chicago Sanitary and Ship Canal and I-55, traffic volumes dip as the corridor passes by a BP processing facility and several nature preserves. The corridor is surrounded by a mix of dense commercial and residential land uses past Ogden, the Harlem Metra Station on the BNSF Line, Morton West High School, and the commercial district around Cermak. North past Roosevelt, the corridor connects with I-290 and the Harlem-Forest Park Blue Line CTA Station. The Harlem Green Line is at Central Avenue on the west end of Oak Park. After North Avenue, the corridor narrows to two-lanes to accommodate on-street parking, eventually hitting the Harlem-Grand Metra station on the Milwaukee District-West Line. Harlem continues north through dense residential and commercial past Irving Park, where there is a large pocket of auto-oriented retail space. As the corridor crosses the Kennedy (I-90), it passes near the CTA Blue Line again. The corridor carries north all the way to the Glenview Amtrak/Milwaukee District-North station after passing through slightly less dense residential and commercial and passing a few landmarks such as St. Adalbert Cemetery. This corridor is a Strategic Regional Arterial with heavy transit coverage by Pace, CTA, and Metra. It has several signal interconnects and is a strong candidate for Transit Signal Priority technology.

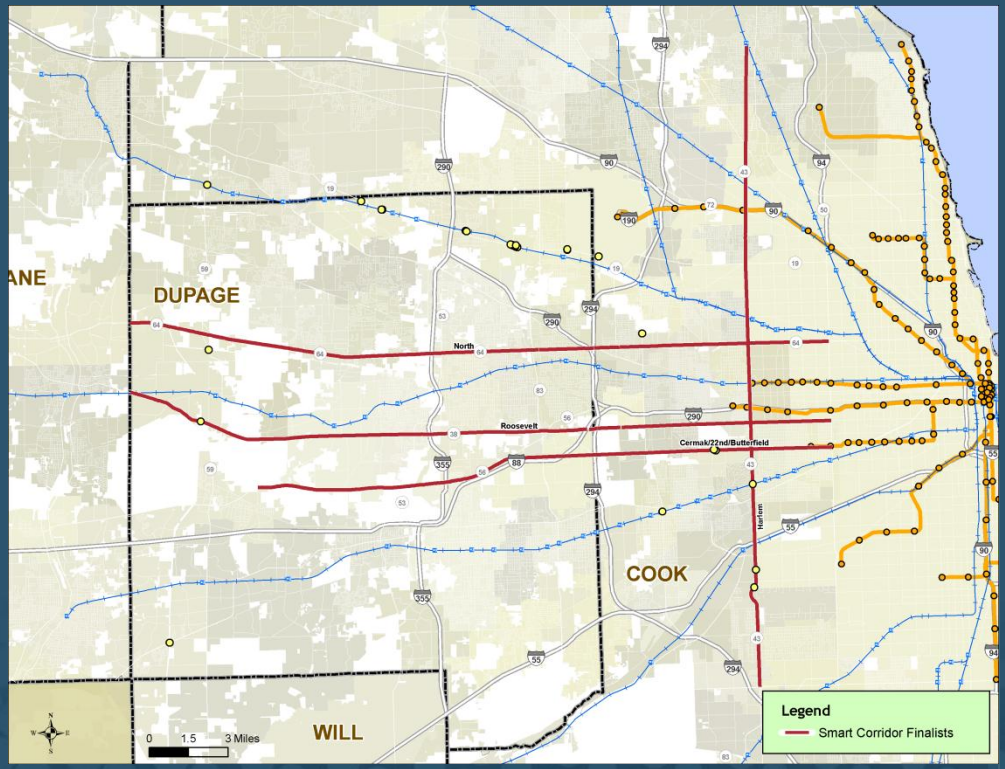
Flyovers Video
“9 Corridors in 9 Minutes”

Corridor Characteristic Diagrams



Final Results – Phase I

- Technical Committee came to consensus on 4 corridors for advancement to the design phase
  - » Cermak/22nd/Butterfield
  - » Harlem Avenue
  - » North Avenue
  - » Roosevelt Road



CAMBRIDGE SYSTEMATICS

Phase II – Conceptual Design

- **Products**
  - Assessment of Existing Conditions
  - Concept of Operations/ Functional Requirements
  - Technology Scan
  - Concept Design Plan Documents
  - Maintenance/Operational Plan
- **Partnered with Jacobs Engineering**
- **Funding pending**