

Northwest Indiana's Congestion Management Process

Step 1: Establish a congestion management subcommittee: The subcommittee should consist of but not limited to:

- INDOT- Essential to participating due in part that most evaluations will take place on major arterials, highways and interstates.
- FHWA- Should be involved to make sure the regulations are being properly followed.
- Local elected officials- Should be involved; scenario planning can have impacts on the local municipalities.
- Transit Service Providers- Their systems are also a part of the network for the congestion management process.
- Municipal and county highway engineers- Are important stakeholders in the congestion management process.
- The environmental and transportation sectors of the state and federal governments- Should also be involved to make sure procedure is being followed correctly.
- Interested Citizens- Public involvement is necessary for the congestion management process to be effective.

These stakeholders will form the Congestion Management Subcommittee, which will be a subcommittee of the Transportation Policy Committee. The elected officials in the subcommittee will come up with a process for making decisions regarding congestion in the region. The subcommittee would meet at least bi-monthly and possible locations for the meetings include Borman Traffic Management Center and NIRPC. The regular meeting times and location for the committee will be established during the first meeting.

Step 2: Collect Data: Data relevant to the congestion management process has been collected within the region. Data collection would include traffic crashes, Travel Time, Traffic Counts and Roadway configuration. Other database fields were added to the data include termini descriptions, county, area, functional class, direction, CMS area designation, congestion threshold, lane capacity, and associated traffic count station number. In regards to Vehicle/Capacity ratio, the majority of the data in the region has been collected. The current gap in our data collection remains to be is travel time.

- As of right now, data collection and analysis would include three phases: 2010, 2020, and 2030.
- The traffic count data has come from two sources, NIRPC and INDOT
- Seasonal, axle, and hourly adjustments were made to the traffic count data



- Problem areas will be identified: maps will be created and charts will show what and how extreme the problem areas are.

Step 3: Develop Congestion Management Objectives – Objectives are specific steps that help to accomplish the goal, and include the outcome and or output oriented measures. Objectives derive from the visions and goals articulated in the Metropolitan Transportation Plan. Objectives may address: traffic Incident Management, Travel Information, Work Zones, Freeway Management, Roadway Weather, Electronic Payment Services, Freight Management, or Traffic Signal Coordination.

Examples (all relating to a goal of congestion reduction):

- Over the next 3 – 5 years, reduce the clearance time of traffic incidents on freeways and major arteries in the region from a current average of X minutes to an average of Y minutes.
- Over the next 3 – 5 years, reduce the variability in travel time on freeways and major arteries in the region such that 95% of trips (19 out of 20) have travel times no more than 1.5 times the average travel time for a specific time of day.
- By 2012, enhance connectivity among transit services so that transfers between transit modes (rail, bus) and operators are seamless and can occur with one “smart card”

Step 4: Identify Area of Application – The Congestion management plan should be applied to a specific geographic area and network of transportation facilities. Our geographic area is the NIRPC region, which consists of Lake, LaPorte and Porter counties as well as a small portion of southwestern Michigan.

Step 5: Define System/Network of Interest- The Congestion Management Plan network should identify the characteristics of the surface transportation network under consideration. The CMP should be multi modal. The networks that will be analyzed with this congestion management process are the roadways, (the arterials and highways more so than the local roads) and the South Shore rail. Observing the roadways will allow the evaluation of bus congestion in addition to auto and truck congestion because they all share the same roadway.

Step 6: Develop Performance Measures- Performance measures are used to assess the effectiveness and efficiency of the transportation network. The performance measures should fit the smart criteria; meaning that it should be Specific, Measurable, Agreed, Realistic and Time-Bound. Currently, there are two performance measures that this process will focus on. They are Volume to capacity ratio by roadway segment and travel time by road or transit link.



Volume to capacity ratio by roadway segment, proposed thresholds including:

- Rural areas thresholds would be 70% of v/c ratio. Rural areas are usually defined as areas that are not located within an urbanized area.
- Urban or suburban thresholds would be 80% of v/c ratio. These areas are located within an urbanized area but not near a major traffic generator. An example would be a suburban subdivision.
- Major traffic generators- (shopping centers, sports arenas, airports, etc.) thresholds would be 90% of v/c ratio.
- Thresholds for the transit links would be determined by the geographic characteristics of the link (Rural, Suburban, Urban) and the mode of transit used.
- The thresholds for transit include Express, Local, Radial, Local Connective and Circulator type services.
- Thresholds for transit would range from .30 to 1.00.

Travel Time by road or transit link

The methods to collect time travel data for travel time have not been determined yet. There are several possible ways to collect time travel data. They are:

- *Real time GPS*- Some cell phone companies can keep track of this information. It might be possible to obtain this information for a fee.
- *Sensors* –Sensors are present on some interstate highways in this region. These sensors are sometimes used for traffic counts. It might be possible to calculate time travel from these devices as well.
- *Real time camera monitoring*- This method already exists in this region. Several websites, including INDOT's and Borman.in.gov currently has real time camera monitoring. This can be used to monitor the travel times from one camera to another.
- *Floating Car Technique*- A driver would drive through parts of the region to see how long it would take to travel from point A to point B.
- Other possible sources include the household travel survey and time travel data from local bus agencies.

Step 7: Evaluate growth and development scenarios to identify future congestion problems in the context of the CRP. Scenario modeling will be conducted in the context of congestion for the Comprehensive Regional Plan.

Step 8: Institute System Performance Monitoring Plan- The Performance monitoring plan should monitor both highway and transit. The primary way to monitor the system is to continue to collect data. Type of data will depend on the types of performance measures used and the data should be relevant to the area, available, timely, reliable, consistent and susceptible to forecasting. The likely agents for monitoring for this congestion management plan would be traffic counts and travel time.



Step 9: Identify/Evaluate Strategies- by now, the congested and problem areas of the region should have been identified. There should have been several scenarios and strategies evaluated by this step. From here, possible strategies will need to be separated from the rest of the group. A criterion for evaluating the potential strategies would need to be selected as well. The key here is to follow the process and only implement physical expansion as a last resort. Categories for strategies include:

- Adding More Base Capacity.
- Operating Existing Capacity More Efficiently.
- Encouraging Travel and Land Use Patterns that Use the System in Less Congestion Producing Ways.

Step 10: Incorporate strategies into the Metropolitan Transportation Plan and Transportation Improvement Program. This plan will be a part of the 2040 comprehensive regional plan. The congestion management portion of the 2040 Comprehensive Regional Plan is slated to be complete by mid-2010, leaving approximately a six month contingency for unforeseen events. Future amendments and editions of the Transportation Improvement Program will be based on the trends and strategies outlined in the 2040 Comprehensive Regional Plan as well as the Congestion Management Plan.

Step 11: Implement Selected Strategies/ Manage System- Implementation and continued management take place at this step. At this step, the strategies are implemented in to the congestion management and Comprehensive Regional Plan. This step ensures a linkage between the Congestion Management Process and funding decisions. System management would be ongoing at this point.

Step 12: Monitor Strategy Effectiveness- The effectiveness and strategies of the CMP should be periodically be evaluated. Performance measures should be used to develop the effectiveness of the strategies. Evaluation criteria may be needed to compare how well strategies work. This step in the congestion management process will be ongoing.

