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Regional Solicitation Before-and-After Study

TAC-Planning
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Today's Talking Points

- Study Team
- Study Purpose & Process
- Peer Review
- Study Results
  - Findings
- Discussion

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Study Team

SRF Consulting Group, Inc. and Hoisington Koegler Group, Inc.

Marie Cote, PE | Project Principal/Manager | SRF

Lance Bernard | Deputy Project Manager | HKGi

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Study Purpose

The purpose of this study is to document the regional benefits achieved through the Regional Solicitation and Highway Safety Improvement Program (HSIP) solicitation. This will be achieved by using a performance-based approach that evaluates the “before-and-after” conditions associated with a built project.

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Study Process

- Determine the “before-and-after” conditions for built projects that have received funds dating back to 2007:
  - 45 +/- Roadway Projects
  - 25 +/- Transit Projects
  - 40 +/- Ped/Bike Projects
  - 30 +/- HSIP Projects
- Document the cumulative benefits
- Use a performance-based approach to document the benefits
- Evaluate other MPOs (Peer Review)

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Peer Review

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Peer Review

Findings from this effort are intended to spark conversations about future policy decisions regarding the Metropolitan Council's regional solicitation process.

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Peer Review

1. North Carolina Capital Area Metropolitan Planning Organization (NC CAMPO): Raleigh, NC
2. Denver Regional Council of Governments (DRCOG): Denver, CO
3. Metro Portland: Portland, OR
4. Metropolitan Transportation Commission (MTC): San Francisco, CA
5. Southeast Michigan Council of Governments (SEMCOG): Detroit, MI
6. New York Metropolitan Transportation Commission (NYMTC): New York, NY
7. North Central Texas Council of Governments (NCTCOG): Dallas, TX
8. East-West Gateway Council of Governments (EWG COG): St. Louis, MO
9. Baltimore Metropolitan Council (BALTOMETRO): Baltimore, MD
10. Puget Sound Regional Council (PSRC): Seattle, WA

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Peer Review

1. **Funding Process:** What is the process used for allocating federal transportation dollars and selecting projects to inform the Transportation Improvement Plan (TIP)?

2. **Funding Amount:** What is the maximum dollar amount an agency can request?

3. **Project Priorities:** Is the MPO setting any goals to direct funds towards projects that achieve a specific benefit (e.g., congestion, complete streets, transit, freight, mobility or safety) or improvement (e.g., roadway expansion, transit or pedestrian/bicycle facility)?

4. **Geographical Distribution:** Are there any distribution measures (e.g., urban, suburban or rural) being used to ensure funds are being allocated equitably across the region?

5. **Scale of Projects:** Is funding going towards more complex projects that achieve a higher regional benefit?

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Peer Review

6. **Social Equity Measures:** What type of equity measures are being used to score projects?

7. **Before/After Results:** Is the MPO conducting any follow-up evaluations to identify the impacts federally funded projects have on the region?

8. **Safety Funds:** How does the MPO handle the solicitation of Highway Safety Improvement Program (HSIP) projects?

9. **Technology:** How does the MPO handle Connected and Automated Vehicle (CAV) projects and other projects utilizing advanced technology? Have CAV projects been funded? Any challenges faced with funding CAV projects?

10. **CMP Approach and Methods:** Is the MPO's Congestion Management Process (CMP) being used to help inform the selection of projects?

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Peer Review – Key Findings

- **Long-Range Transportation Plan Approach**: A larger emphasis is being placed on projects that have been identified in the MPO's LRTP. In most cases, these plans have gone through an extensive process to determine regional needs based on a number of factors (e.g., congestion, safety, equity and multimodal goals). The end result is a short-term program of transportation investment priorities.

- **Geographical Distribution Approach:** Several MPOs use a funding formula that allocates federal transportation funds to sub-regions or priority areas. In general, the sub-regions are responsible for developing a list of priority projects for consideration.

- **Traditional Approach**: METRO (Portland, OR) and BALTOMETRO (Baltimore, MD) use a similar regional solicitation process as the Metropolitan Council, which includes a "call-for-proposals" through an application process. Projects that are selected for funding are still closely linked to regional goals and priorities identified in their regional policy plans or LRTP.

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Peer Review – Key Findings

9 out of the 10 MPOs do not cap the amount of money being requested.

MPOs are programming/funding larger scaled projects that achieve a larger regional benefit.

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Peer Review – Items of Note

- A large emphasis has been placed on air quality, economic development initiatives and affordable housing goals.
- The peer review did not discover any studies being done to report the “before-and-after” results of a transportation project that has received federal funds.
- MPOs play an active role in helping establish HSIP performance measures and targets, but do not manage the program.
- Most MPOs do not have any CAV projects within their current TIP.
- CAV scoring criteria have not been established.

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Before-and-After Study

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Findings will help address the study objectives:

- Review existing and proposed conditions at the time of the application submittal and compare post construction conditions to determine if the region received the level of benefits identified in the project application.
- Identify if there are specific types of projects that resulted in the highest level of safety or delay benefits per dollar invested.
- Determine if there are any scoring measure modifications or lessons learned for future solicitations.
- Identify how the Regional Solicitation and HSIP prioritization criteria can better align with new federal performance targets.

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Performance Measures Selected

1. **Roadway Congestion:** Determine if congestion benefits due to the project have been achieved by evaluating the peak hour intersection delays or speed data under no build and build conditions.

2. **Roadway Safety:** Determine if roadway safety benefits due to the project have been achieved by evaluating crash data.

3. **Transit:** Determine if transit ridership projections have been achieved.

4. **Bicycle & Pedestrian Safety:** Determine if pedestrian and bicycle safety benefits have been achieved by evaluating crash data.

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Performance Measures Selected

5. **RBTN Contribution:** Tabulate the number of bikeway miles funded and programmed and their contribution to the Regional Bicycle Transportation Network (RBTN).

6. **Pedestrian/Bicycle Connections Achieved:** Document the number of desirable destinations (e.g., jobs, homes, recreation, shopping, etc.) connected/linked by built or programmed pedestrian or bikeway projects.

7. **HSIP Safety Benefits:** Determine if roadway and intersection safety benefits have been achieved by evaluating crash data.

6. **HSIP Congestion:** Determine if congestion benefits due to the project have been achieved by evaluating the speed data under no build and build conditions.

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Before-and-After Study (Summary of Findings)

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1. Roadway Congestion

- The congestion benefits in this evaluation were determined by conducting a Synchro analysis for no build (without improvement) and build (with improvement) conditions using current peak hour volumes.
- StreetLight data was sampled for it's effectiveness in measuring before and after conditions.
- The 2014 Regional Solicitation application has established a new method that can be used to evaluate post construction conditions.
- **With the Regional Solicitation investments, roadway delays have been constant or reduced.**

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2. Roadway Safety

- The safety benefits in this evaluation were determined by comparing the crash analysis and before condition in the application with current MnCMAT data.
- The 2014 Regional Solicitation application has established a new method for the safety measure that required the applicant to utilize the HSIP application B/C worksheet. This provides clear direction with a specific FHWA resource for crash modification factors that can be used to evaluate post construction conditions.
- **With the Regional Solicitation investments in 2007, 2009 and 2011, safety benefits were achieved.**

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3. Transit

- Ridership totals:
  - Projected New Ridership: 5.6 million (28 percent increase)
  - **Total New Ridership: 8.9 million (44 percent increase)**
- The Green and Blue Line LRT projects played a significant role with 7.4 million out of the 8.9 million Total New Ridership as a result from these projects.

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4. Bike/Ped Safety

- Utilized MnCMAT data provided by MnDOT for the years 2007 through 2017.
- The annual reduction was determined by calculating the average number of crashes that occurred before and after the project was built.
- **The methodology is qualitative in nature**
- The number of pedestrian and bicycle crashes have been reduced within a quarter-mile buffer of the built projects:
  - Annual reduction of 18 pedestrian and bicycle crashes.
  - Built projects have resulted in an annual reduction of one fatality.

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5. RBTN Contributions

- Evaluated all projects programmed or funded.
- Approximately 73 miles of bikeway facilities have been built or programmed. 55 miles have contributed to the RBTN.
- The roadway expansion and reconstruction projects have helped build 19 miles of bikeway facilities. Approximately seven miles were part of the RBTN.
- **Overall, the projects have contributed 62 bikeway miles to the RBTN network or 4.23 percent of the overall RBTN (existing and planned - 1,453 miles).**

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6. Bike/Ped Connections

- Direct and indirect connections have been made to the following areas:
  - Major job or activity centers (20 projects - 23 miles)
  - Areas above the regional average of concentrated race or poverty (20 projects - 25 miles)
  - Areas of concentrated poverty (15 projects – 19 miles)
  - Areas of concentrated poverty greater than 50 percent residents of color (10 projects – 13 miles)

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7. HSIP Safety – Items of Note

- 2007 and 2009 Findings (20 projects)
- **With these investments, crash severity has been reduced.**
  - 100 percent reduction in fatal crashes (five to 0)
  - 97 percent reduction in A injury crashes (30 down to one)
  - 68 percent reduction in B injury crashes (85 down to 27)
  - 69 percent reduction in C injury crashes (144 down to 45)

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7. HSIP Safety – Items of Note

- 2011 Findings (seven projects)
- **With these investments, crash severity has been reduced.**
  - No fatal crashes observed in before or after analysis
  - 63 percent reduction in A injury crashes (three down to one)
  - 100 percent reduction in B injury crashes (six down to 0)
  - 83 percent reduction in C injury crashes (23 down to four)

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Recommendations

- Share the “Good News” (e.g., safety benefits, RBTN, and transit ridership).
- Monitor 2014 Regional Solicitation projects to determine their benefits.
- Discuss the Peer Review findings and if any new approaches to the Regional Solicitation funding cycle should be considered.
- Discuss minor modifications or better guidance for the Regional Solicitation and/or HSIP applications.
- Address data needs/gaps:
  - StreetLight Data
  - RBTN Network
  - Pedestrian/Bicycle Volumes
  - Construction/Built Dates

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Discussion

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