



State of Missouri

2021 Governor's Award for Quality and Productivity

Executive Summary

Project or Team Name: MoDOT I-270 North Real Time Mapping

Nominator: Director Patrick McKenna

Nominating Department: (Nominations must include names of all agencies/departments/organizations/businesses, etc.)

Missouri Department of Transportation (MoDOT)

Category: Customer Service

Executive Summary: Executive Summary page must be 500 words or less, 12 point, Times New Roman font, and left justified. **Attach the Executive Summary to the front of the nomination.**

MoDOT's I-270 North Real Time Mapping is a customer service innovation where MoDOT provides real time geometric changes made on the project to internal MoDOT Geographic Information Systems (GIS) leads, as well as numerous third-party map companies including Apple, TomTom, HERE, Google, and Uber. The primary goal of this customer service innovation was to reduce turnaround time to update the GPS map from six months to two months or less. Two major third-party mapping companies (Waze and Apple) have been able to update maps in two weeks. Internally, MoDOT was able to improve map updates by one week.

Nearly 140,000 daily vehicles navigate this stretch of roadway every day and over 18% of the traffic consists of commercial motor vehicles that move goods across the country and through the region. From July 2020 to December 2020, the average number of crashes per day dropped to 3.03 from 3.15 crashes per day (averaged over the previous five years)—an improvement of 2.8%. This is unprecedented as crashes typically increase in a construction project, not decrease. Saving even one life makes this an outstanding example of delivering excellent customer service.

Improving real-time GPS updates better allows the travelers of the corridor to more easily adjust to continual changes, resulting in better safety and mobility throughout the I-270 North Corridor. MoDOT already boasts an 80% satisfaction rate of customer service.

Quicker GPS updates improve the safety and mobility and reinforce MoDOT's mission to provide safety, service and stability while being good stewards of the state's transportation dollars.

Video Summary: A brief - no longer than three minute - video summary may also be submitted via a link. Submission of a video summary is optional.

Attached

[I-270 North Real Time Mapping Video Link](#)



State of Missouri 2021 Governor's Award for Quality and Productivity GUIDELINES

PURPOSE

The Governor's Award for Quality and Productivity (GAQP) recognizes teams that champion service excellence, efficiency and process improvement, and innovation in Missouri state government. All projects must meet requirements of effectiveness, responsiveness, and efficiency of such magnitude that would make the project a model of excellence in state government nationally.

ELIGIBILITY

Any team of individuals employed by the State of Missouri who worked together to implement a project within their own agency, or who have worked with another section, division, department, agency, organization or business to implement a project which exemplifies the purpose of the GAQP, may submit a nomination. The combined number of individuals representing any team should consist of **2 to 20 team members (maximum)** – the majority of whom are state employees.

Teams must provide documentation which includes, but is not limited to, background information, measures, and other supporting material that demonstrates the impact of the project. Projects are encouraged to demonstrate the potential for replication in other jurisdictions or settings.

Once a nomination has been approved by the department/agency and submitted for consideration for the GAQP, additional team members may not be added.

All projects must have been in existence long enough to have a **measurable** impact.

EXECUTIVE SUMMARY

Describe (in 500 words or less) the initial challenge, research, problem-solving measure, documentation, results, etc. Executive summary page must be typed in 12 point, Times New Roman font, and left justified. **Attach the executive summary to the front of the nomination.** [A blank Executive Summary document is available at the end of this document.]

Video Summary: A brief - no longer than three minute - video summary may also be submitted via a link. Submission of a video summary is optional.

NOMINATION PROCESS

A team of managers, directors, and/or state executives reviews nominations and selects the winners of this award which recognizes successful teams in Missouri state government.

1. Secure nomination packet from your [agency/department GAQP coordinator](#) or on the GAQP web page at <http://www.training.oa.mo.gov/erp/index.htm>.
2. Complete the nomination form (providing ALL information requested)
3. Forward completed nomination form to the [agency/department GAQP agency coordinator](#).
4. Agency/department GAQP coordinator reviews nomination form and ensures that all information and documentation is complete and accurate.
5. Agency/department coordinator secures agency/department director endorsement signature and forwards completed nomination packet to GAQP state program coordinator.
6. **Do not submit hard copies of information, documentation, videos, etc.**

CATEGORIES

Customer Service

The winning team(s) will identify and develop measures to improve customer service in Missouri state government. The winning project(s) will establish how its development and implementation provided the agency a means to more effectively satisfy customer, stakeholder, and public expectations. This will include, but is not limited to, communication, information, responsiveness, resolution of problem(s), and on-time, reliable, consistent customer service delivery.

Efficiency / Process Improvement

The winning team(s) will develop an effective and creative approach in using state resources to implement a new process or deliver a product or service. Implementation of the winning project must have improved the overall quality of products and services, significantly enhanced operational efficiency, simplified work processes, generated increased revenues, or reduced spending.

Innovation

The winning team(s) will develop and implement a new process/product/service or a better application to an existing process/product/service to create an “added value” to state government. The winning project will deliver benefits to the citizens of Missouri through advances in vital services such as healthcare, education, communications, transportation, etc.

Pinnacle Award

The winning team will be chosen from a nominated team if, in the opinion of the Selection Committee, the nomination clearly encompasses multiple award categories in a manner that exemplifies the spirit of the Governor’s Award, or exceeds all other nominations. This award is not open for nomination and may only be used by the GAQP Selection Committee.

Examples of previous winning nominations for the above categories are available by visiting the following link: [previous winning nominations](#).

Agency/Department Coordinator Forwards Complete Packet to:

Governor’s Award for Quality and Productivity
Office of Administration – Division of Personnel
Attn: Julie Schlup
Truman State Office Building, Room 430
301 East High Street
Jefferson City, MO 65101

Julie.Schlup@oa.mo.gov
573-522-1336

<http://www.training.oa.mo.gov/recognition.htm>



State of Missouri – 2021 Governor’s Award for Quality and Productivity

NOMINATION FORM

I. GENERAL INFORMATION

Department: Missouri Department of Transportation (MoDOT)

1. **Project or team name:** MoDOT I-270 North Real Time Mapping
2. **List the name of all team members, job titles, state agency department, and/or other organizations including public, private sector or business:** *(Please list alphabetically by last name – 2 to 20 team members maximum.)*
 1. Justin Wolf, Project Director, MoDOT
 2. Jennifer Becker, Transportation Project Manager, MoDOT
 3. Ploisongsaeng Intaratip, Senior Traffic Studies Specialist, MoDOT
 4. Austin Kramer, Senior Construction Inspector, MoDOT
 5. Nina Thompson, Communications Coordinator, MoDOT
 6. Schuyler Noeth, Senior Highway Designer, MoDOT
 7. Sheron Thomas, Senior Highway Designer, MoDOT
 8. Tabitha Locke, Senior Construction Inspector, MoDOT
 9. Eric Kopinski, Deputy Project Director, MoDOT
 10. Tom Blair, District Engineer, MoDOT

3. **Nomination Category:** *(Check only one.)*

INNOVATION

CUSTOMER SERVICE

EFFICIENCY / PROCESS IMPROVEMENT

4. **Explain why you selected this category:**

MoDOT’s core values are safety, service and stability. The I-270 North Real Time Mapping contributes to all three by providing map updates to get information in the hands of travelers and motor carriers as quickly as possible. These updates have improved safety and mobility and reinforce MoDOT’s commitment to being good stewards of the state’s transportation dollars.

This customer service innovation contributes to the department’s already impressive customer service rating of 80% and enhances MoDOT’s recognition as one of the top state DOTs in the country for this area of focus. This metric is tracked quarterly in [MoDOT’s Tracker](#).

II. BACKGROUND

1. **When did the team begin its work?**

The I-270 North project team started working on this in early 2020. By summer, it was being fully utilized by the project team. With COVID-19 limitations to both internal and external organizations during this time period, having this new customer service feature in place allowed MoDOT to continue improving its customer service even in the middle of challenging times.

2. **What date did the team initiate the implementation phase of the project?**

June 1, 2020

3. **Is the project:**

Time Limited

Completed

Ongoing

III. PROJECT DESCRIPTION

1. Why was the project necessary?

Over the years, MoDOT has seen an increasing number of travelers utilize real time Global Positioning Systems (GPS). These systems are being installed as standard equipment in many new vehicles or can be accessed through third party providers and smart phones such as Apple, TomTom, HERE, Google, and Uber. This is the first time MoDOT worked directly with mapping companies. Prior to this innovation, updates to mapping (GPS) in St. Louis might take up to six months.

MoDOT's I-270 North Project is the largest single project the department has performed in the past 10 years. This four-year \$278 million project is tasked with rebuilding and modernizing the infrastructure throughout the corridor. More than 140,000 vehicles navigate this stretch of roadway every day. A significant 18% of the traffic consists of heavy tractor-trailer trucks, which move goods and services throughout the region. With more than 100 long-term geometric adjustments, such as lane shifts or detours, the ability to update maps in real time was even more critical. Weekly changes to the interstate, entrance, and exit ramps as well as cross streets emphasized the need to clearly and accurately communicate impacts that are critical to the project's success.

Given the importance of accurate maps to help travelers safely and efficiently move around the corridor, the project team recognized the need to be proactive. MoDOT began contacting private electronic mapping companies such as Apple, TomTom, HERE, Google, and Uber versus waiting for these groups to notice changes. The MoDOT project team sends a direct email to contacts for these third-party companies. This email informs them of upcoming changes, when the traffic adjustment will occur and the location of the adjustment. Improving real-time GPS updates better allows the daily users of the corridor to more easily adjust to continual changes, resulting in better safety and mobility throughout the I-270 North Corridor.

2. What were the primary goals of the project? (150 words or less.)

The primary goal of this innovation was to update the GPS map in two months. Prior to this innovation, it was taking up to six months for third party mapping companies to update their systems with changes resulting from MoDOT projects. These geometric changes are known well in advance by MoDOT and this concept sought ways to reduce this gap.

As a secondary goal, the MoDOT team sought to improve internal mapping updates to its [Traveler Information Map](#) (TIM) and the mapping system used by the Transportation Management Center (TMC) in St. Louis called Gateway Guide. Having quicker external and internal mapping updates provides a better product to travelers and commercial drivers.

To date, the project team is seeing an update time of about two months for third party GPS providers. The project team is also experiencing improved safety and mobility from this improved communication flow.

3. Describe the project: (200 words or less.)

The MoDOT team uploads the specific map change by entering data into Open Street Map. This system is a free map-editing program using the same concept as Wikipedia for updates. Several third-party map companies pull data directly from this site. Through the combined effort of direct emails and the use of Open Street Maps, MoDOT can send data directly to the map companies and not wait until the map companies search for changes and updates. This in turn, means those using GPS and third-party mapping systems won't have to wait as long to receive updated information on the roads they are traveling.

4. What technology, if any, was used in the development, implementation, maintenance or measurement of the project? (150 words or less.)

For this concept, the I-270 North project team utilized technology already in place. There was zero additional material cost for this concept. The details of illustrating any geometric change to the roadway, ramp, etc. is already captured through engineering plan sheets from the construction company. Pushing this information through a free third party map system (Open Streets) better allows information flow.

As stated above, this is the first known occurrence where a MoDOT Team worked directly with mapping companies. This improved communication was enlightening to both groups, providing a better understanding of the challenges involved to further improve the communication on future projects.

5. Explain how the accomplishment of the team exceeds its regular duties and responsibilities.

(150 words or less.)

This bold approach of working directly with mapping companies required minimal time and incurred no extra material costs to the state. By leveraging better public-private partnerships, it allows all users of Missouri roads to get better value while reinforcing MoDOT's commitment to deliver results while being good stewards of the state's transportation dollars. By finding innovative ways to more quickly communicate internal and external map updates, it allows for improved safety, mobility and internal efficiencies. The MoDOT project team exceeded traditional expectations by working directly with the third-party map companies.

6. Which of the following describes the intended benefits of the project? (Check all that apply and provide an explanation. - 150 words or less)

- Cost Reduction Time Savings Increased Effectiveness
 Improved Process Other: Mobility, Safety

Explain the intended benefits: This concept saves time and money for internal operations. It reduces the amount of communication needed for internal processes where maps are used on a daily basis. More importantly for the citizens of Missouri, it improves safety and mobility as real time updates can more quickly be captured by third party companies.

IV. RESULTS / MEASUREMENT

1. Explain how the success of the project was measured and what outcomes were achieved. (Explanation should not exceed 300-500 words.)

The greatest measure for tracking success is how quickly internal and external maps receive real-time updates from geometric changes. Currently, the best we have seen for external mapping updates is two weeks for some major third-party mapping companies (Waze and Apple). This is a tremendous accomplishment when, prior to this innovation, MoDOT was experiencing delays of up to six months. Internally, MoDOT was able to improve the map updates by one week by more proactively including the MoDOT's GIS division.

In addition, quicker mapping updates have led to a reduction in crashes along the corridor. The previous five years yielded a crash rate of 3.15 crashes per day. From July 2020 to December 2020, the average number of crashes per day dropped to 3.03. This 2.8% improvement throughout the middle of an extreme construction project is something to celebrate. This is unprecedented, as crashes typically increase in a construction project, not decrease. Saving even one life makes this an outstanding example of delivering excellent customer service.

2. Are the benefits derived from this project: (Check only one.)

- Recurring One-time

3. If recurring, how will the benefits be sustained? (Explain in 150 words or less.)

The great benefit of this concept is it is extremely easy to implement statewide within MoDOT. Future MoDOT projects with multiple geometric changes will be able to easily utilize the approach created within this customer service innovation. More importantly, industry is pushing to more quickly update their systems to help travelers and commercial drivers. With a combined effort to "close the gap" internally and externally, the biggest winners will be the travelers through Missouri's transportation system.

V. RECOGNITION / AWARDS

1. Has this project previously been nominated for the Governor's Award for Quality and Productivity? If yes, when?

No

2. If yes, for which category was it nominated?

N/A

3. Has this project received any other awards or recognition? If yes, describe.

- 2021 MoDOT Innovations Challenge Winner.
- This innovation has been shared with the national organization: American Association of State Highway Transportation Officials (AASHTO). This innovation has also been shared with the National Operations Center of Excellence (NOCoE). Both national groups communicate and share best practices with all 50 state departments of transportation around the country.

The MoDOT project team has also shared this as a best practice at five meetings:

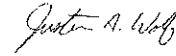
1. American Public Works Association (APWA)
2. American Concrete Pavement Association (ACPA)
3. Intelligent Transportation Society of the Midwest, (ITS)
4. MoDOT Lunch 'n' Learn
5. Transportation Engineers Association of Missouri (TEAM)

VI. NOMINATOR'S INFORMATION

Nominating Department: Missouri Department of Transportation (MoDOT)

Name: Justin Wolf

Signature:



Digitally signed by Justin A. Wolf
Date: 2021.07.25 08:30:41 -05'00'


Telephone Number: 314-624-3276

E-Mail Address: Justin.Wolf@modot.mo.gov

VII. DEPARTMENT COORDINATOR'S INFORMATION

Name: Kara LeCure

Signature:



Kara LeCure
2021.07.23 07:40:18 -05'00'

Telephone Number: 573-751-3302

E-Mail Address: Kara.Lecure@modot.mo.gov

VIII. DEPARTMENT DIRECTOR APPROVAL

Department Director's Name:
Patrick McKenna

Signature:



Nomination must be signed ONLY by the Department Director to be eligible for consideration. Nominations not signed by the Department Director will be returned to the agency coordinator.