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E 6th St and E 7th St/Pennsylvania Ave Corridor Study, Des Moines, Iowa

Jennifer McCoy, PE, PTOE | Bolton & Menk
Kelsey Larsen, PE, PTOE | Bolton & Menk

In each issue, the INCITER features an article coordinated by one of NCITE's technical committees. This article is a contribution from the **Simulation and Capacity Analysis Technical Committee**.

The E. 6th Street and E. 7th Street/Pennsylvania Avenue corridor study evaluated current and future projected traffic volumes in the Des Moines Downtown East Village. E 6th Street and E 7th Street/Pennsylvania Avenue are minor arterials serving as the only north-south direct connectors to I-235 for the East Village and Market District areas. The study area is comprised of commercial developments, restaurants, small retail shops, and residential neighborhoods. The East Village and Market District have seen major redevelopment over the last 5-10 years with further redevelopment expected in the future. Operational and safety deficiencies must be addressed to ensure the city has a clear vision regarding future improvements needed to support the redevelopment plans. The study limits are shown in Figure 1.

The study evaluated the feasibility of converting E 6th Street and E 7th Street/Pennsylvania Avenue from one-way to two-way roadways, as proposed in city planning documents. The effort included comprehensive data collection, stakeholder outreach, a speed study, intersection capacity analyses, parking occupancy counts, traffic forecasting, safety analyses, and multi-modal review – resulting in a plan for transportation improvements. This article will focus on the traffic operational analysis completed for the project.

(Continued on page 12)



Figure 1: Study Limits

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Technology **Open Position**

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PRESIDENT'S MESSAGE

Hello everyone! I hope everyone's excited for another great year of NCITE, which is only possible with the continued support by all of you. NCITE just celebrated its 60th anniversary last year and we're excited for the next 60 years. I want to thank all those who have volunteered their time to help NCITE succeed in the past, present, and into the future. We had a great Executive Board last year led by **Jeremy Melquist**, who was able to accomplish a lot during his time as president. I'm looking forward to continuing on the success from last year. This year we're looking to providing opportunities to network with ITE members outside of Minnesota, including a meeting with the Wisconsin Section and bringing back the "road show" section meeting with an event in the Dakotas.

Our first Section Meeting of the year was this past Friday, February 2 at Jax Café where **Ben Nelson** from the City of Anoka, along with **Eric Johnson** and **Kelsey Larson** from Bolton and Menk presented on the Highway 10/Highway 169 project as the 2023 winner of the NCITE Transportation Achievement Award.

The NCITE Section-wide meeting schedule this year includes:

- Section Meetings (a mix of breakfast, lunch, and happy hour meetings)
- Summer Social (planning a joint outing with other professional organizations similar to 2023)
- Golf outing (this will be NCITE's first golf outing in many years!). Please stay tuned for this event, which is actively being planned and will benefit NCITE's student scholarships.
- Annual Meeting



Phil Kulis
2024 NCITE President

NCITE technical committees are a great way to share knowledge among professionals in the Section. The 2024 technical committees are beginning to meet and it's a great time to get involved with them. A full list of the committees can be accessed [here](#). You can review the committee descriptions and sign up for committee email lists here.

The **Younger Member Committee** (YMC) provides an opportunity for young professionals in the field to connect and network. The TMC is having their first event of the year on February 20th at Top Golf. Please consider signing up to network and keep the golf game in shape for spring!

If you'd like to become more involved with NCITE, please reach out to myself or any other board member. Committees are a great way to get involved - we are currently looking for a co-chair for our **Complete Streets and Safety Committee**. We're also looking for an advertising coordinator, which is another opportunity to get involved.

To stay up-to-date on NCITE activities, please visit www.nc-ite.org, [LinkedIn](#), and [Twitter](#).

Upcoming District/International Conferences to also keep on your calendar:

- ITE Great Lakes District Annual Meeting: June 11-13 in Green Bay, WI
- ITE International Annual Meeting: July 21-24 in Philadelphia, PA

We have a great group of people leading NCITE this year. The 2024 NCITE Executive Board consists of:

- Vice President: **Nik Costello**, Washington County
- Secretary: **Joe DeVore**, KLJ
- Treasurer: **Justin Sebens**, SRF
- Director: **Jack Olsson**, Kimley Horn
- Director: **Sarah Peterson**, HDR
- Past President: **Jeremy Melquist**, Bloomington
- Section Representative: **Morgan Hoxsie**, Kimley Horn

Also, if you have any ideas for future section or committee meetings, we welcome your input! Please reach out to any of them with any suggestions you have!

Phil Kulis, 2024 NCITE President

UPCOMING EVENTS

ite Calendar

ITE Calendar for District, Section, & Chapter Meetings

Stay Connected with NCITE & ITE Events
Online & In Person | Dates Vary



NCITE Calendar

Online & In Person | Dates Vary



GLITE Annual Meeting

Green Bay, WI | June 12-14, 2024

Attend an Upcoming NCITE Technical Committee Meeting! Check out upcoming topics here.

For more information on the committees and how you can get involved:

https://nc-ite.org/Committee_Listing

For professional development opportunities:

http://nc-ite.org/content.php?page=Professional_Development_Meetings

MEET THE 2024 EXECUTIVE BOARD

Get to know the 2024 board!!

Phillip Kulis, 2024 NCITE President

Job Title and Employer: Project Manager at SRF Consulting Group

Past Work: Transportation Analyst at Kittelson and Associates

Education: MS Penn State University, BS Rochester Institute of Technology (Rochester, NY)

Where You Live: St Louis Park , MN

Hometown: Ithaca, NY

Hobbies: Golfing, biking, hiking, skiing, water sports, smoking (meat), photography, and home improvement projects.

Interesting Facts:

- I have a minor in criminal justice.
- Ice fished for the first time last year – didn't catch anything
- Have made a hole-in-one

Best Vacation: I went to Jamaica last year and I'm thinking I'm going to make warm weather vacations a thing to get away from the Minnesota cold. At some point I'd also like to make a trip to Iceland.

Favorite TV Show: Suits – thought about becoming a lawyer prior to engineering.

Favorite Food: Buffalo chicken pizza

Favorite Restaurant: Birch's on the Lake

Desired Superpower: Who doesn't want to be able to fly?

What is the strangest food combination you enjoy?: Apparently ketchup on corn isn't normal. Who knew?



Phillip Kulis
President

Nik Costello, 2024 NCITE Vice President

Job Title and Employer: Engineer III, Washington County Public Works Department (currently working full time at the Metro Transit Gold Line BRT Project Office)

Past Work: Assistant Traffic Engineer, Washington County Public Works Department

Education: University of Minnesota

Where You Live: St Paul

Family: wife Kelly, daughters Ruth (4) and Nora (1)

Pets: dog Karl (16)

Hometown: Stillwater, MN

Hobbies: Golfing, fishing, camping, skiing, curling, traveling

Interesting Facts:

- My wife and I met in kindergarten, but didn't end up dating till after college.
- I was a varsity cheerleader in high school.
- I've never broken a bone.

Favorite TV Show: Twin Peaks (TV show), Rushmore (movie)

Favorite Podcast: Tumblehome

Favorite Music: Spoon

Favorite Food: Mexican

Favorite Restaurant: Sea Salt

Biggest Accomplishment: Raising my daughters (#GirlDad)

Instruments Played: Alto saxophone back in the day

Best Vacation: Charleston, SC/Savannah, GA

Do you collect anything? CDs, wool winter clothing

Strangest food combination you enjoy: Peanut butter on a burger

Something on your bucket list: Travel via ship through the Great Lakes



Nik Costello
Vice President

MEET THE 2024 EXECUTIVE BOARD

Joe DeVore, 2024 NCITE Secretary

Job Title and Employer: Traffic Supervisor at KLJ Engineering

Past Work: SRF Consulting Group (6 years)

Education: University of Minnesota (Go Gophers!)

Where You Live: Lino Lakes, MN

Family: Laura (Wife)

Pets: Two Lionhead Lop Bunnies named Coffee and Clover

Hometown: Hugo/Forest Lake, MN

Hobbies: Golf, Baseball, Softball, Hockey, and going to the North Shore

Interesting Facts:

- I was the bullpen catcher for the University of Minnesota Baseball Team.
- I like to help out with my wife Laura's art fair events (I have no artistic talent myself).
- I have only owned one model of vehicle my whole life. Currently a 2011 Ford Ranger.

Favorite TV Show: House MD

Favorite Podcast: The New York Times Daily

Favorite Music: Indie Rock and anything with a catchy rock tune.

Favorite Food: Proud Member of the Twin Cities (Pizza) Pie Chasers

Favorite Restaurant: Mario's Pizza in St Paul

Favorite Book: The Bullpen Gospels (Dirk Hayhurst)

Favorite Car: Ford Ranger (2011 and older, not the huge new ones)

Desired Superpower: Able to clone myself.

Instruments Played: Piano and Percussion (I was a mean Timpani player in High School Band)

Best Vacation: New England (NYC; Mystic, CT; Newport, RI; Cape Cod, MS; Rockport/Salem, MS; and Boothbay Harbor, ME)

Do you collect anything? No. My parents on the other hand hoard everything so that is telling.

What is the strangest food combination you enjoy? Optimal Pizza toppings are bacon, pineapple, and jalapeno. I will die on that hill.

What is something on your bucket list? Travel to Japan and Germany.



Joe DeVore
Secretary

Justin Sebens, 2024 NCITE Treasurer

Job Title and Employer: Project Manager at SRF Consulting Group

Education: BA in Physics, Carthage College and MS in Civil Engineering, U of WI - Madison

Where You Live: Rogers, MN

Family: Wife – Katie, Son – Carson, and Daughter - Kelsey

Pets: Lab Mix – Wyatt and Pitbull Mix - Emmy

Hometown: Seymour, IL

Hobbies: Golf and hauling kids to their sports/activities

Interesting Facts:

- I jumped 6' 7" in high jump in High School.
- I have been to Disney World three times (once as a kid, twice as an adult).
- My hometown has less than 200 people in it.

Favorite Movie: Fast and Furious Series

Favorite Music: Anything country

Favorite Food: Bar food

Favorite Restaurant: Kyoto Sushi

Favorite Book: Ready Player One

Desired Superpower: All of Dr. Strange's powers

Best Vacation: Both Trips to Disney World with my family

Do you collect anything? Large collection of original Pokémon cards

Favorite random fact: Cow tipping is actually an urban legend. It is extremely difficult to actually do this.

What is your useless talent? Happy Gilmore swing

Strangest food combination you enjoy: Mayo on a hotdog

Something on your bucket list: Golf along the coast of Northern Ireland



Justin Sebens
Treasurer

MEET THE 2024 EXECUTIVE BOARD

Sarah Peterson, 2024 NCITE Director

Name: Sarah Peterson

Job Title and Employer: Traffic Engineer at HDR

Past Work: Student internships at The City of Fargo and HRI Inc. in PA

Education: Bachelor's in civil engineering from NDSU

Where You Live: Alexandria, MN

Family: Husband, Chad

Pets: 100 lb. chocolate lab named Hinckley. He is a tall boy!

Hometown: Fargo, ND

Hobbies: Traveling, board games, paddle boarding/kayaking

Interesting Facts:

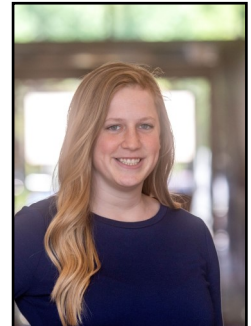
- I grew up in a big NDSU household. As a kid, I cheered on the Green Bay Packers because I thought it was NDSU, and it stuck. Go Pack Go!
- I feared dogs growing up, especially big ones, and now I can't imagine life without them, especially Hinckley!
- In high school and college, I was obsessed with going to concerts. I have seen Thomas Rhett 5 times; he was only the headliner once. He always seemed to be opener for concerts I attended.

Favorite Food: Currently obsessed with Quesabirria

Favorite Restaurant: Appetizers at Rustica in Morehead

Best Vacation: 5 weeks in Germany after high school graduation

Something on your bucket list: Visit (stay overnight) in all 50 states. 21 left!



Sarah Peterson
Director

Jack Olsson, 2024 NCITE Director

Job Title and Employer: Traffic Engineer at Kimley-Horn

Education: Undergrad at Kansas State University/Grad school at University of Minnesota

Where You Live: Saint Paul, MN

Family: Wife Kelsie and one year-old son Miles

Pets: Maltese shih-tzu named Rio

Hometown: Lincoln, NE

Hobbies: Volleyball, tennis/pickleball, craft beer/ciders/seltzers

Interesting Facts:

- I minored in Spanish and also became proficient in Portuguese
- I grew up taking family trips to Minnesota and liked them so much I wanted to move here, so I used grad school as a stepping stone to move to Minnesota permanently
- I am addicted to the CBS reality show Big Brother and lose a few weeks of my life every summer watching it; there's 3 episodes a week!

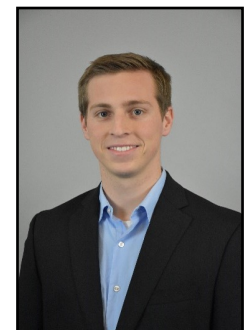
Favorite Restaurant: HuHot Mongolian Grill (the closest one is in Rochester)

Favorite Book: Harry Potter (I'm a Slytherin but would've classified myself as a Ravenclaw up until 5ish years ago)

Best Vacation: Honeymoon in Santorini

What is your useless talent? Solving a Rubik's cube

Strangest food combination you enjoy: Chili and Cinnamon Rolls (it's a Nebraska thing)



Jack Olsson
Director

ANNUAL MEETING UPDATE

The Annual Meeting was held on November 15th, 2023 at The Fair on 4 at the Mall of America in Bloomington. Congratulations to all the award winners!

Awards

Transportation Professional of the Year Award: **Jeff Preston**

Young Transportation Professional of the Year Award: **Joe DeVore**

Transportation Achievement Award: **Highway 10/Highway 169 Project (City of Anoka, Bolton and Menk)**

Scholarships

Undergraduate Scholarship (\$1,000 each):

Avery Mulholland & Julie Olson

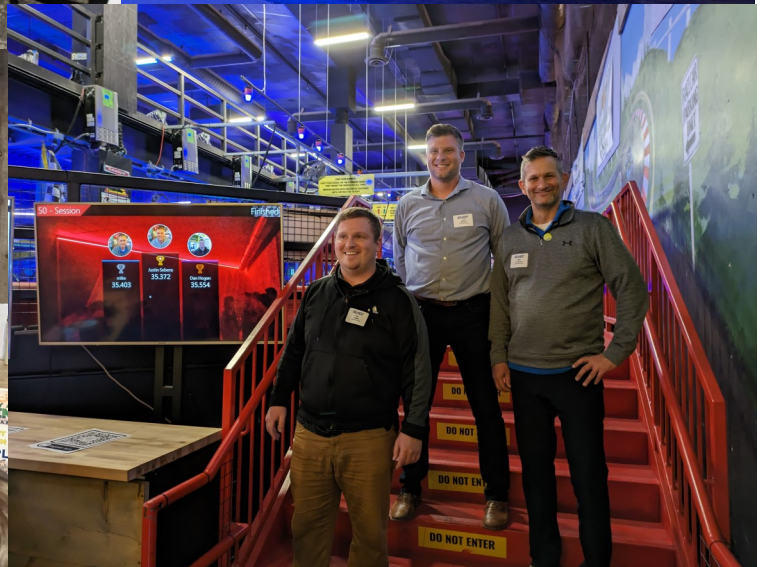
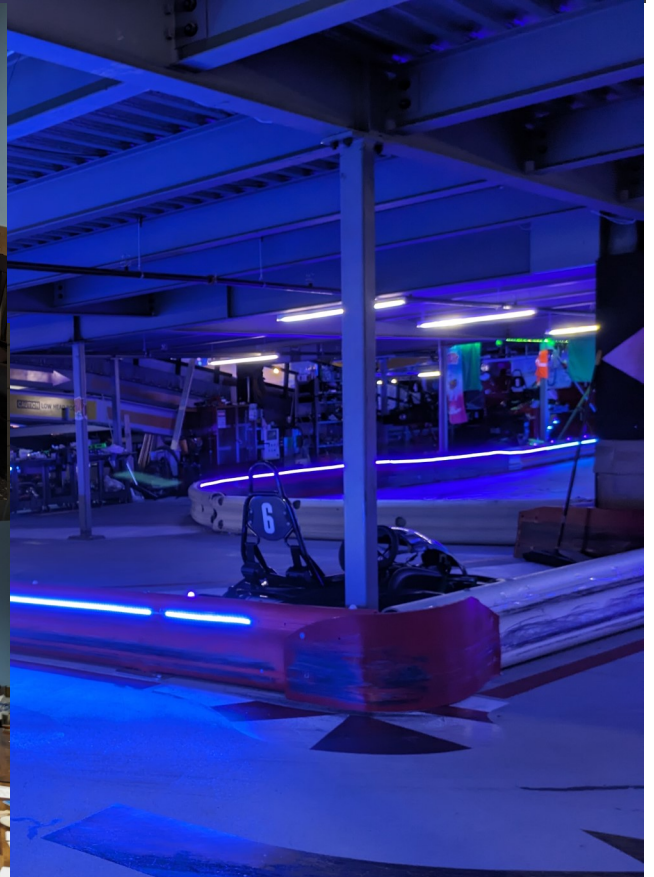
Intern Scholarship (\$1,000 each):

Juliana Johnson & Asad Ali

Bob Green Scholarship (\$1,000): **Bradly Allen**



ANNUAL MEETING UPDATE



We continue to iterate the way we complete these meetings, and this time has been a perfect opportunity to try out some new things. However, if you have anything that may make these meetings work better or enhance the value for the section, we'd love to hear your thoughts! Please let any of your thoughts be known to a member of the board.

YMC UPDATE

The Younger Member Committee is planning a Top Golf event on Tuesday, February 20th from 6-8pm. If you are interested in this event, sign up using the StarChapter signup email or by visiting the event page [here](#).



If you are not receiving the YMC StarChapter emails, please reach out to one of the YMC's 2024 Co-Chairs:

Bryce Statz at Bryce.Statz@kimley-horn.com | Olivia Polinsky at Olivia.Polinsky@hdrinc.com

If you or a co-worker are interested in joining the Young Member Committee please visit the YMC Page on the NCITE Website [here](#).



STUDENT CHAPTER UPDATE - SDSU

SDSU ITE was happy host our student chapter's re-founding member **Thomas Cook** from **HDR** for our first meeting of the spring semester.

Current Officers:

President - **Matthew Croke**

Vice President - **Siri Vagle**

Treasurer - **Carter LaMont**

Communications - **Arib Al Razi**

Faculty Advisor: **Dr. Michael Pawlovich**



STUDENT CHAPTER UPDATE - UMN-TC

University of Minnesota - Twin Cities ITE Club has been busy at the end of 2023 and the beginning of 2024. They hosted "**TranspoTalks**" which included speakers discussing the benefits of Bus Rapid Transit versus Streetcar, Rethink I-94, and Road Reconstruction. We have had a great turnout of excited and engaged students. We look forward to what the rest of the semester will hold for our club!

- **Sophia Hardman**, ITE UMN

Traffic forecasting and redistribution was challenging due to changes in anticipated growth in area travel demand models. StreetLight origin-destination information was utilized for redistributing traffic. An examination of lane utilization was conducted to determine vehicle routing today and how that would change with the conversion to two-way corridors.

Alternatives were modeled using Synchro/SimTraffic for the areas north and south of the interchange and Vis-sim for the interchange area. The way drivers access the existing I-235 interchange was also impacted with the change from one-way to two-way roadways. Options were examined to re-configure the interchange including T-intersections, roundabouts, frontage road modifications, and ramp realignments.

During existing conditions review, we noticed that one of the highest crash rates in Iowa existed on the eastbound I-235 segment west of E 6th Street. This is due to the close spacing of the 2nd Avenue on-ramp and E 6th Street off-ramp leaving insufficient spacing for merging/diverging. Under the existing condition, vehicles entering I-235 via the 2nd Avenue on-ramp have 615 feet to merge before the E 6th Street off-ramp gore begins. We saw an opportunity to address this interstate deficiency and provide a better environment for pedestrians and bicyclists on E 6th Street by balancing vehicle volumes on the parallel routes through the East Village. An interchange alternative at E 6th Street was proposed to remove the eastbound off-ramp connection at E 6th Street and connect the off ramp at Pennsylvania Ave instead while making sure that existing bridges were not significantly impacted. The proposed changes at the interchange are shown in Figure 2 below. By moving the eastbound off-ramp from E 6th Street to Pennsylvania Avenue, the weaving area between ramps is more than doubled increasing from 615 feet to 1,350 feet.



Figure 2: Proposed Alternative for I-235 at E 6th St and E 7th St/Pennsylvania Ave

This proposed change also helps address other concerns at the existing intersection of the I-235 eastbound off-ramp and E 6th Street. The eastbound right turn is a high-volume movement at the intersection. The current lane geometry of the eastbound approach includes a through lane, a through-right, and a right-turn lane. The shared through-right and right turn lanes have approximately 250 feet of storage. Based on observation, vehicles making an eastbound right do not utilize the shared through-right and right turn lanes equally. This is likely attributed to the lane drops that occur to the south along E 6th Street. It was estimated that 65% of vehicles making an eastbound right would use the right turn lane, leaving only 35% using the shared through-right turn lane.

In addition to unequal lane utilization at the I-235 eastbound off-ramp and E 6th Street intersection, the southbound through movement lane positioning at the intersection is also concerning. The two through lanes on the southbound approach at the I-235 eastbound off ramp lead to three receiving lanes south of the off-ramp. The westernmost receiving lane is intended to be a receiving lane for the eastbound right. However, several southbound through vehicles merge into this lane in the middle of the intersection. In addition to the lane geometrics, the bridge railing/wall makes it difficult to see oncoming traffic and does not provide sufficient distance per AASHTO intersection sight distance guidelines. This makes eastbound right-turning vehicles from the I-235 off ramp hesitant to turn right on red. Figure 3 below shows anticipated average, 95th percentile, and the maximum queues of the eastbound I-25 off ramp at E 6th Street in the 2045 AM No Build scenario. The maximum queue is anticipated to extend about half a mile.



Figure 3: 2045 AM Peak Hour No Build Queues along the Eastbound I-235 Exit Ramp

A detailed queuing analysis was also conducted in Vissim with the proposed alternative to illustrate how queues could be accommodated and improved moving the eastbound exit ramp to Pennsylvania Ave. Based on sight distance criteria provided by the AASHTO Green Book, a right turn on red (RTOR) is not permitted for the eastbound approach. Figure 4 (page 13) shows the anticipated 2045 AM peak hour queues with the proposed design.

This innovative interchange alternative addresses a long-time safety issue and moves the heavy eastbound off ramp turning traffic from E 6th Street, where a new cycle track is planned, to Pennsylvania Ave, a wider street with more through-put.

Overall, this study resulted in improving pedestrian and bicycle connectivity through the Des Moines East Village and Capitol Park Neighborhood Association with a proposed protected cycle track, HAWK signals, bicycle conflict warning system, intersection bump outs, road diet, parking changes, better circulation on two-way streets, and a safer I-235 interchange. It was a win-win solution for all stakeholders involved.



Figure 4 shows a significant reduction in traffic queuing from the no build condition.



Managing Transportation for the Future

*Paul Morris, PE | SRF Consulting Group
 Mark Gallagher, AICP, PMP | SRF Consulting Group
 Clayton Bayer, PE | SRF Consulting Group*

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 This article is a contribution from **SRF Consulting Group**.

Greenhouse Gas Impact Mitigation Legislation

Transportation is now recognized as the top sector for greenhouse gas (GHG) emissions in Minnesota. In the 2023 session, the Minnesota Legislature passed, and Governor Walz signed, new requirements for GHG impact mitigation for trunk highway expansion projects. That legislation also prescribed the formation of a Working Group to review the legislation and prepare a report to the Legislature with recommendations for its implementation. SRF was privileged to assist MnDOT with facilitating the Working Group and preparing the report.



Source: MN Pollution Control Agency

The legislative requirements – which are set to take effect on February 1, 2025 – define capacity expansion projects on the trunk highway system. Qualifying expansion projects will be required to conduct a GHG impact assessment as part of the approval process. This assessment will use available models and tools to estimate the 20-year impact of the project on GHG emissions and vehicle miles traveled (VMT) for the affected area of the transportation network. These performance measures must then be compared to the State's GHG and VMT reduction targets over that timeframe.

If the project does not meet the targets, modification of the project scope or mitigation will be required for the project to be in conformance. Several types of mitigation project types are listed in the legislation, including transit expansion and service, active transportation infrastructure, micromobility, transportation demand management, and land use changes.

During the 2024 session, Legislators will have an opportunity to review the Working Group Report and introduce modifications or additions to the existing legislation. The coming months will be an exciting time as the transportation industry adopts more rigorous approaches to evaluating the sector's contribution to climate change.

Automated Road Weather Messages

Many agencies have extensive Road Weather Information Systems (RWIS) deployed across wide areas. RWIS uses Environmental Sensor Stations (ESS) to detect a wide variety of conditions, including temperature, precipitation, visibility and surface conditions. This data is generally sent to a central location to assist with weather forecasting, winter maintenance and other functions.

Using RWIS data to present locally relevant messages to travelers on nearby message signs has presented issues. While the outputs of an ESS could be used to trigger stored messages on a sign, this required a direct connection between them, was difficult to change once configured, and couldn't take into account combinations of conditions to trigger a message.

Title (continued from page 15)

Working with the North Dakota Department of Transportation (NDDOT) SRF created a comprehensive system that ties RWIS data directly into road management and traveler information systems. By enhancing the IRIS software NDDOT can deliver real-time, relevant condition information to traveler on the roadway in the state.

IRIS collects data from ESS across the state and also provided control of all the State’s Dynamic Message Signs (DMS). The enhancement checks the values of all the sensors on an ESS. When values from sensors like temperature and precipitation exceed pre-determined values, IRIS will select appropriate DMS based on distance or manual assignment and generate an appropriate message.

Three classes of messages are supported: Surface (ice/snow) Condition, Visibility and Wind. Since these conditions can all exist at the same time, IRIS includes a priority structure to determine which message should be displayed. The table below shows the messages and their priority, with 1 being lowest priority and 7 the highest.

Priority	Condition	Message Class
1	Slippery	Road Surface
2	Reduced Visibility	Visibility
3	Wind >40mph	Wind
4	Wind >60mph	Wind
5	Very Slippery	Road Surface
6	Low Visibility	Visibility
7	Ice Detected	Road Surface

While messages have been managed manually by operators in the past, the process was labor-intensive and prone to error. To display a message an operator would have to consult the RWIS interface, determine from the data if a message was appropriate, find a DMS close enough to be relevant, compose a message and display it. Since weather conditions are dynamic, tracking changes and updating messages can easily be overlooked.

By combining data collection and automating DMS message management IRIS reduces workload, improves the traveler experience and maximizes the value of investments in RWIS installations.

Citywide Signal Infrastructure Asset Management Review - Minnetonka, MN

In 2023, the City of Minnetonka requested SRF to organize and perform the collection of data at 70 signals, 8 pedestrian flasher systems, and 5 at-grade rail crossings within the city limits. As a part of this focused asset management effort, SRF conducted field visits to collect data using tablets in a custom-made GIS interface that was tailored to the project.

A matrix housing key attributes, agreements, as-built plans, and digital photos for each location was developed, along with a GIS tool that displayed data in an easy-to-navigate map-based interface. Some data collected at each intersection included the qualitative condition of signal poles and pedestals, controller and cabinet type, type of bracketing, paint quality, presence of APS and EVP equipment, and luminaire type. The matrix was augmented to add on planning level replacement costs for each signal, pedestrian flasher system, and rail facility, so the City can better predict potential cost participation in the future for these systems within their jurisdiction, even those owned and operated by MnDOT or Hennepin County. Therefore, City staff can use this helpful tool in the future to determine how to better allocate funding for signals, ped flashers, and railroad facilities in their CIP.



Foley Boulevard Grade Separation

Jeff Hilden, PE, PTOE | TKDA

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This article is a contribution from **TKDA**.

Set in a densely populated area in the Twin Cities northern suburbs, Foley Boulevard is part of an integral local and regional transportation network. Previously, BNSF Railway crossed Foley Boulevard at grade with two high-speed tracks with over 70 trains crossing daily, creating a barrier for vehicular mobility and traffic delays near the Metro Transit park-and-ride facility. These delays impacted bus circulation and park-and-ride users' ability to consistently plan trips. Additionally, an analysis of crash rates on Foley Boulevard indicated there was a safety issue. Anoka County developed the project to grade separate Foley Boulevard from the BNSF Railway tracks, selecting TKDA to lead the project. The project consisted of reconstructing 0.7 miles of Foley Boulevard on a new alignment from East River Road to 750 feet east of Coon Rapids Boulevard. TKDA used a combination of innovation and collaboration to grade separate Foley Boulevard from the busy BNSF Railway crossing. The new configuration is a four-lane urban roadway with curb and gutter, storm sewer, a sidewalk on the north side, a trail on the south side, and center left turn lanes. Traffic signals were installed at East River Road, Norway Street/Metro Transit, and Coon Rapids Boulevard.



The new configuration is a four-lane urban roadway curb with gutter, storm sewer, a sidewalk on the north side, a trail on the south side, and center left turn lanes.

The East River Road and Foley Boulevard intersection was relocated approximately 400 feet to the northwest. Foley Boulevard proceeds northeast in the same bearing as the segment north of BNSF Railway, crossing through wooded, open space and wetland. Passing over the railroad tracks at a slight skew, the alignment continues straight along the existing roadway. The existing Foley Boulevard segment south of the railroad tracks is a local access road with access to East River Road. A new, local road connection provides a connection to the backage road. The profile grades of the grade separation are 5 percent. The structure type is prestressed concrete beams with two piers in the BNSF Railway right-of-way. The bridge span is laid out to be compatible with BNSF Railway's future plans and operations.

Grade separation projects are often costly to construct and significantly impact the surrounding area. Keeping this in mind, the project team explored unconventional opportunities for achieving the project goal of grade separation, minimizing the impact on the area, reducing initial construction costs, and decreasing long-term expenses. Since the new alignment passes through a portion of a wetland, the team used an innovative approach of ground stabilization and Mechanically Stabilized Earth walls, efficiently reducing construction time and cost and long-term life cycle costs. In this method, the contractor installed a series of buried columns made of compacted rock in a grid pattern. On top of this system, a load transfer platform was constructed to transfer the load of the granular embankment above to the rock columns below. The platform included a working pad made of compacted crushed aggregate with geogrid soil reinforcement.

Foley Boulevard Grade Separation (continued from page 17)

To meet project goals on schedule and within budget, the County relied on TKDA's design team collaboration. The team helped the County reach its project goals through above-and-beyond service, outside-the-box thinking, and an effective and safe staging plan, all while meeting the schedule and budget. For the County, excellent safety performance was a priority on this project, and there were no reported accidents or incidents during construction. Maintaining traffic in the project corridor and reconfiguring intersections increases the risk of an accident, but this did not occur. Additionally, the team provided temporary pedestrian access routes and detours for walkers and rollers to navigate safely through the construction zone.

Overall, this project's outcome showcases that creative solutions aren't always apparent to the public. The elimination of at-grade railroad crossings, which are often hazardous and cause significant traffic delays, brings public awareness to the value that engineering brings to a community. The Foley Boulevard Grade Separation project increases vehicular mobility and safety, sets an example for maximizing design efficiency while minimizing costs, and demonstrates close collaboration among the project team



The East River Road and Foley Boulevard intersection was relocated approximately 400 feet to the northwest. Traffic signals were installed at East River Road, Norway Street/Metro Transit, and Coon Rapids Boulevard.

The structure type is prestressed concrete beams with a pier in the BNSF Railway right-of-way. The bridge layout is compatible with BNSF Railway's future plans and operations.



TECHNICAL COMMITTEE UPDATE



Geometric Design Technical Committee

Co-Chairs: **Amanda Vetter** amanda.vetter@apexenggroup.com

Recent Agenda Items: No Recent Meetings

Future Agenda Items: Trucks and Roundabouts in March or April. If interested, please contact Amanda Vetter (Amanda.Vetter@apexenggroup.com). Geometric Designs for Pedestrians, Innovative Intersections, Restricted Access Design.

Next Meeting: Thursday February 15th, 10:00AM, Location: Virtual.



Intersection Traffic Control Technical Committee

Co-Chairs: **Nick Erpelding** Nick.Erpelding@hennepin.us **Mara Hayes** mhayes@srfconsulting.com

Recent Agenda Items: 2024 planning and appointed Mara Hayes as the new committee co-chair.

Future Agenda Items: Kao Soua Yang from MnDOT will discuss MnDOT's new FYA tracking spreadsheet, Phil Kulis from SRF will discuss a recent FYA safety evaluation project, and MnDOT will discuss observations from FYA/POOFYA/Preemption testing

Next Meeting: Thursday February 8th, 8:00AM-10:00AM, MnDOT Water's Edge.



Emerging Technologies in Transportation Technical Committee

Co-Chairs: **Jake Eisinger** jake.eisinger@co.washington.mn.us, **Nathan Wade** nathan@flowlabs.ai

Recent Agenda Items: Connected Solutions for your growing Smart City.

Future Agenda Items: Using AI detections solutions, Lane Keep assist technology & Pavement markings, Blynscy's Dash Cam Sourced roadway monitoring.

Next Meeting: April; Time, Date, and Location TBD.



Complete Streets and Safety Committee

Co-Chairs: **Sarah Peterson** sarah.peterson@hdrinc.com **Sri Durga Yada** SriDurga.Yada@hdrinc.com

Recent Agenda Items: None

Future Agenda Items: Brainstorming of 2024 topics.

Next Meeting: Thursday February 15th, 2:30PM-3:30PM, Location: Virtual.



Planning Methods and Applications Technical Committee

Co-Chairs: **Rachel Wiken** Rachel.Wiken@metc.state.mn.us, **Erik Kappelman** EKappelman@srfconsulting.com

Recent Agendas Items: No recent meetings

Future Agendas Items: TBD

Next Meeting: TBD



Traffic Operation and Maintenance Discussion Group

Committee Chair: **Greg Boche** greg.boche@woodburymn.gov

Recent Agenda Items: Traffic signal repairs and insurance on signals. Traffic signals and street lighting wire theft. Sign manufacturer suppliers

Future Agenda Items: Round Table, topics TBD.

Next Meeting: Wednesday February 7th, Time TBD, Location: TBD.



Simulation and Capacity Analysis Technical Committee

Co-Chairs: **Sharijad Hasan**, md.s.hasan@ndsu.edu **Sajid Raza** sajid.raza@mbakerintl.com

Recent Agenda Items: Collin Schroeder from SRF presented on the Traffic Analysis Toolbox Volume III, highlighted key updates in the 2019 version, & demonstrated the application of guidelines. Sajid Raza was introduced as the new co-chair.

Future Agenda Items: TBD

Next Meeting: TBD



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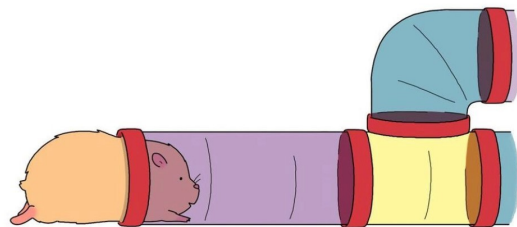
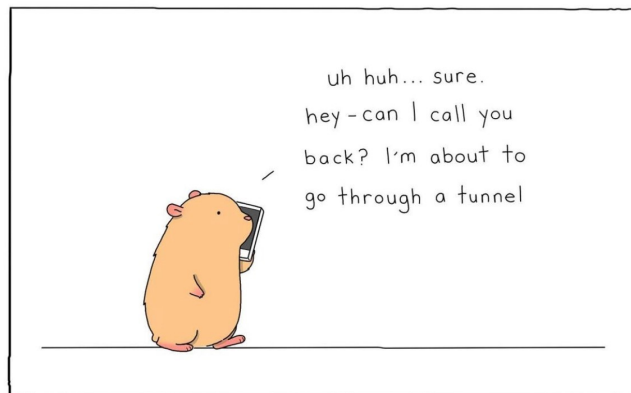
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MEMBERSHIP UPDATE

New Members

Adam Gadbois - City of Eden Prairie

Greg Kern - MnDOT

Gwen Mei- MnDOT

Michael Gille, Kimley-Horn

Thomas Prew- MnDOT

Nathaniel Gorham- MnDOT

Evan Christianson- MnDOT

Douglas Carter - MnDOT

Luke Lortie - MnDOT

Emaline Strehlow- MnDOT

Samuel Stoffels- MnDOT

Taylor Johnson - MnDOT

Eil Kwon - University of Minnesota-Duluth

Fontaine Burruss - City of Minneapolis

Leoma Van Dort - City of Minneapolis

Sara Dunlap - MnDOT

Suzy Scotty - MnDOT

Jacob Bransky - University of Minnesota

Avery Mulholland - University of St. Thomas

Moves

Grey Severson - Alliant Engineering, Inc., formerly Minnesota State University-Mankato

Mitchell Bartelt - MnDOT formerly Washington County Public Works

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