Speaker calls for streetcar revival and ‘flat’ cities to meet sustainability goals

Reviving the streetcar and the urban form it generated—the ‘flat city’—is the most affordable way to meet sustainability goals, according to Patrick Condon, a professor and senior researcher with the Design Centre for Sustainability at the University of British Columbia. He made his remarks at the CTS Fall Luncheon on December 8 in Minneapolis.

The fundamental premise of his talk, Condon stated, was that all the world’s people, and “particularly Americans and Canadians because of our large per capita fuel usage,” have a responsibility by 2050 to reduce greenhouse gas emissions (GHG) by roughly 80 percent. Doing so, he said, may mean a return to the urban landscape defined by the streetcar.

The rise of the streetcar in the early 1900s led to a uniquely North American urban configuration marked by a consistent density of 8 to 10 dwellings per acre, Condon explained. Public agencies were not often participants in the decisions to extend the public transit system infrastructure. In Vancouver, for example, the impetus came from a land developer who owned the streetcar company and eventually the electric company. What was so notable about these days, Condon said, was “how enormously balanced the system was between the mode of conveyance and the number of customers.”

Because streetcars go in one direction, Condon continued, “the lines tended to leave behind a wake of activity along the whole line,” forming streetcar corridors. This urban form worked not as nodes but as a grid designed around a five-minute walk trip: a developer “couldn’t successfully sell a house traveling 60 miles per hour. She spent three months in the hospital, paralyzed and in a coma, and is now permanently disabled.

“The reason we want to talk about Amber’s crash is that it’s easy to focus on the high-publicity crashes, the ones that are on the front page of the newspaper...This is not that crash,” said Philip Sieff of Robins, Kaplan, Miller & Ciresi L.L.P., during the opening session.

“Some people might say, ‘So what.’ It’s a horrible thing, but there’s insurance, someone will pay for this,” Sieff said. But in Minnesota, the minimum amount of liability insurance required for someone in an automobile who injures another person is $30,000, Sieff explained. “Someone is going to be responsible for these costs. If not insurance, then Amber’s family or the people of the state of Minnesota,” he added.

Distracted driving, emergency response among topics at TZD conference

Each year in the United States, approximately half a million people are injured by distracted driving. At this year’s Toward Zero Deaths (TZD) Conference, the attorneys representing the family of one victim—19-year-old Amber—detailed how this “average” crash resulted in an estimated $13 million of costs, primarily to treat her injuries and provide needed lifelong care.

The annual TZD conference serves as a forum for sharing information on ways to reduce the number of injuries and fatalities on Minnesota roads. This year’s event, held November 16–17 in Duluth, drew an estimated 727 attendees.

In 2003, Amber was stopped at a red light when she was rear-ended by a delivery driver. The attorneys representing the family of one victim—19-year-old Amber—detailed how this “average” crash resulted in an estimated $13 million of costs, primarily to treat her injuries and provide needed lifelong care.

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Transportation and a competitive Minnesota

Speakers from the public and private sectors came together in St. Paul on November 28 to explore what transportation system Minnesota’s economy needs to compete and grow in the coming decades.

The event, “Building a Competitive Minnesota,” was sponsored by the Office of Congresswoman Betty McCollum, the St. Paul Area Chamber of Commerce, CTS, the Minnesota Department of Transportation (MnDOT), and the Minnesota Transportation Alliance.

Laurie McGinnis, director of CTS, gave welcoming remarks along with McCollum and Bev Turner of Travelers, which hosted the event. McGinnis also served as moderator.

McCollum set the context for the event: “If we succeed in building a modern transportation system that is efficient, accessible, and affordable, our economy will be able to create new jobs, grow new businesses, and attract the world’s best talent. If we fail, our quality of life and economic competitiveness will slowly erode due to congestion,
pollution, and other costs that a substandard system of transportation imposes on the economy.”

Public spending on transportation infrastructure in this country stands at 2.4 percent of GDP; Europe spends 5 percent, and China, 9. “This is now a race for the 21st century,” McCollum declared. “If America is to stay in this race, and especially if Minnesota is going to stay in this race, we need to come together as a community to plan, and we must do that now.”

The event then turned to presentations of two newly released visions for the state’s future transportation infrastructure.

MnDOT commissioner Tom Sorel described Minnesota GO, a 50-year transportation vision for the state. The plan “acknowledges that we’re functioning in a global environment that requires the cost-effective movement of people and goods,” he said. (See below for more about Minnesota GO.)

Margaret Donahoe, executive director of the Minnesota Transportation Alliance, described her organization’s Transportation in Minnesota: A Roadmap to 2040 (www.transportationalliance.com/content/roadmap-2040-0). The kind of system described in the roadmap isn’t achievable, however, unless funding is increased. “It will take a package of funding options to start to bridge that gap,” she said. “We have to have everyone working together, and involvement of the business community is critical.”

They were followed by a panel reaction and dialog with four speakers:
- Charles Zelle, president, Jefferson Bus Lines and co-chair of the Itasca Project transportation task force
- Vince Montgomery, president, TKDA
- Mark Phillips, commissioner, Minnesota Department of Employment and Economic Development
- Mark Ryan, president and co-owner, Carl Bolander and Sons Company

Zelle agreed with the need for a multi-modal system. “It isn’t a choice between options. More and more … we see how integrated these systems are.” He also said that business leaders and employers want a city and a transportation system that will attract younger employees who expect varied transportation modes. “We absolutely have to have a kind of … integrated system if we want to keep and retain the best employees in the future. That will be the foundation for our economic prosperity.”

Montgomery said traffic congestion during the work commute makes it difficult to recruit employees to his firm’s downtown locations. Ryan added that congestion compounds the problems involved in building roads on time and on budget—trucks hauling aggregate and hot mix to sites cost $90/hour whether in motion or sitting in traffic.

Phillips said a comprehensive approach is needed for economic development. He also pointed out the role that airports, including those in smaller communities, play in business location decisions. He added that he and the governor heard consistent feedback at jobs summits around the state: “When you talk to people who are trying to grow businesses and create jobs, they need the infrastructure, and it’s an appropriate role of government.”

To close the event, McGinnis asked the panelists what message they would send to Washington during discussions of the next federal authorization bill. The consensus: provide recurring, sustainable, consistent funding. CTS

Public input helps MnDOT create transportation vision

Ensuring accessibility, building to a maintainable scale, and connecting key regional centers are among the eight guiding principles that form the state’s new 50-year vision for transportation, according to the Minnesota Department of Transportation.

“The ‘Minnesota GO’ vision is a transportation vision for generations,” said MnDOT commissioner Tom Sorel. “These are long-range objectives for all parts of the state’s transportation system that may take decades to be fully realized, but will ultimately help our communities achieve a high quality of life, a competitive economy, and a healthy environment.”

The vision is the result of months of work that included input from the public and diverse representatives of the transportation community. CTS, along with Carissa Schively Slotterback from the Humphrey School of Public Affairs and Cindy Zerger from the College of Design, prepared a public participation and outreach plan for the effort. CTS also assisted with the production of videos for the Minnesota GO website that feature University experts.

MnDOT and other transportation organizations will use the vision and information from this project to develop short-term and long-term plans. The vision will offer guidance in determining the transportation initiatives that the state chooses for investment and will serve as the basis for updating the 20-year Statewide Multimodal Transportation Plan.

To view the vision, visit the Minnesota GO website at www.minnesotago.org. CTS
that was more than five minutes away from the nearest streetcar line," he said.

The result was a huge change in housing options. No longer limited to tenements or row houses, people could choose a whole new category of building: the bungalow. “The American dream of owning your own home emerges with the streetcar," Condon asserted.

By the 1950s streetcars were displaced by autos and buses (in the Twin Cities, the buses were financed by General Motors). Vehicle-miles traveled increased in the aggregate and per person, with resulting increases in GHG emissions, travel time, and taxpayer dollars to maintain the system, Condon said.

To deal with these changes, “We have tried to chase cars … with very expensive pieces of infrastructure, and also deal with sprawl by imagining the creation of nodal points which didn’t in fact really exist," Condon said.

Looking at maps of the Twin Cities, the grid system is evident. The question, Condon asked, is what Minneapolis and St. Paul are going to do with this legacy in a post-1950s world with very low density and a freeway system that doesn’t prioritize the downtowns. “You’re busily reinforcing the function of that grid and at the same time you’re conversely spending all your money on a transit system that operates on an entirely different premise.” (Both Minneapolis and St. Paul have recently expressed interest in streetcars.)

Condon’s hypothesis is that a ‘flat’ city with streetcars on a grid is more sustainable than a ‘pointy’ city with high densities and transit nodes. “Most of our thinking has been to make cities pointier, bigger, put more jobs there, put more transit there,” he said. “That’s maybe a fool’s errand…It goes against the grain of the existing city. It may in fact go against the grain of the cultural expectations of Americans and Canadians.”

He offered three sustainability principles for the framework of his working hypothesis: low carbon is better than high carbon, short distance is better than long distance, and choose what is most affordable over the long term. “The last principle implies that the transit system should be married to land use so that subsidies aren’t needed for operational, construction, or vehicle costs,” he said. “In certain corridors, like one in Vancouver, that’s already the case.”

Per passenger mile, modern streetcars have the lowest energy use and GHG emissions of other forms of transportation, Condon said. Capital costs are much less than those of light-rail transit, and total costs over the long term (a 30-year amortization period) on well-traveled routes are less expensive than those of buses. And flat cities—exemplified by Copenhagen and Barcelona—have very low GHG emissions.

“I think we need to operate within the realities of the basic configuration of American metropolitan areas as we move to an 80 percent reduction in greenhouse gas,” Condon concluded. “That means dramatic changes in trips… I’m not imagining away cars, but I am imagining a world where walk/bike/transit trips constitute at least 60 percent of all trips. And I don’t think that’s inconceivable.”

Lt. Colonel Matt Langer, Minnesota State Patrol, said the one word that came to mind for him in listening to Amber’s story was prevention. “I challenge each of us to not go home from our shift without knowing we’ve done everything we can to prevent the crash we saw today,” he said.

In the conference’s other plenary session, panelists talked about the role emergency medical and trauma services play in reducing death and disability following vehicle-related incidents. Lee Munnich, director of the Center for Excellence in Rural Safety at the University of Minnesota, described a recently completed pilot test for CrashHelp. The system enables emergency responders to collect multimedia data about crash victims on-scene via mobile smartphones and make those data directly available to emergency rooms, providing hospitals with advance notification of crash severity and related information to help prepare for the patient’s arrival. The test, conducted in Boise, Idaho, resulted in almost 800 responses from users of the system, which the researchers are analyzing; a pilot test of the next version of CrashHelp is planned for 2012.

Dia Gainor, executive director of the National Association of State EMS Officials, noted that until the other TZD “Es”—enforcement, education, and engineering—are 100 percent effective, EMS is the only hope for victims of traffic crashes. “Only about one-third of crash victims die right away or have an injury so traumatic that they would die even if they crashed outside the door of an emergency room; another third take 10 to 90 minutes to die,” she said.

In a session on bicycling and pedestrian behavior and traffic laws, Professor Greg Lindsey of the University of Minnesota’s Humphrey School of Public Affairs described a bicycling counting project under way with the Minnesota Department of Transportation (MnDOT). Hundreds of cyclists are injured, and some killed, in crashes in Minnesota each year, Lindsey said, but there is little data available to assess efforts to improve safety and to inform planning and management. Lindsey discussed several current methods for measuring bicycle and pedestrian traffic and explained that the aim of the MnDOT study is to establish standardized procedures for collecting these data.

Toward Zero Deaths is a Minnesota partnership led by the Departments of Public Safety, Transportation, and Health, in cooperation with the Minnesota State Patrol, the Federal Highway Administration, Minnesota county engineers, and CTS. The conference was hosted by CTS and sponsored by MnDOT, the DPS, and the Minnesota TZD program.
Study aims at enhancing public engagement in transportation policymaking

Public engagement—gathering public input to inform decision making by government agencies, political leaders, or nonprofits involved in administering public policies and programs—has become a fundamental feature of government’s relationship with the public. However, public engagement is less common in transportation than in other areas of public policy. Assistant professors Zhirong “Jerry” Zhao and Kathryn Quick of the Humphrey School of Public Affairs recently completed a study aimed at increasing and improving public engagement in transportation policymaking. The study, funded by CTS, included the development of a four-step framework for managing the public engagement process and a list of suggested transportation engagement opportunities in Minnesota.

CTS also hosted a workshop in October for the Minnesota Local Road Research Board at which the authors presented the report. The workshop convened county commissioners, city and county engineers, communications professionals, and others involved in public engagement. The benefits of public engagement include the contribution of valuable resources and knowledge by participants, Zhao and Quick say. It generates better buy-in and limits delays, mistakes, and lawsuits, with stakeholders being more likely to accept a decision reached in a participatory manner—even if it was not their preferred decision. It can help build relationships that facilitate communication and collaboration among different parties. It may also lead to more inclusive, democratic, and equitable decisions about how to utilize limited public resources, the researchers suggest.

Zhao and Quick’s four-step framework was designed to assist public works leaders who want to improve the engagement process in transportation-related projects. The four steps—1) decide the purpose of public engagement, 2) consider moving beyond participation (for example, to make the process more collaborative or adaptive), 3) select techniques for managing engagement, and 4) evaluate public engagement—serve as a guide for designing and managing the process.

A final report on the project, Suggested Design and Management Techniques for Enhancing Public Engagement in Transportation Policymaking (CTS 11-24), is available on the CTS research website. CTS

Registration under way for luncheon, career expo, pavement conference

Michel Parent will present “How New Transportation Systems Shape Cities: The Example of Greater Paris” at the CTS Winter Luncheon on February 14. He is scientific advisor to IMARA (Computer Science, Mathematics and Control for the Automated Road), a project team from the French National Institute for Research in Computer Science and Control (INRIA). To register, contact Nicole Freese, 612-624-3708, cceconf5@umn.edu, or visit www.cts.umn.edu/events/Luncheon/2012/winter.

The 2012 Transportation Career Expo will be held February 28 from 4:30 to 7:15 p.m. on the Minneapolis campus. The expo connects companies, agencies, and professional organizations with students and recent graduates. A registration form is enclosed. For more information, contact Shawn Haag at 612-625-5608, haag0025@umn.edu, or visit www.cts.umn.edu/Events/CareerExpo.

The 16th Annual TERRA Pavement Conference will take place February 9 in St. Paul. For details, see the TERRA website: www.terraroadalliance.org. CTS

Upcoming events To see other events or publicize yours, visit www.cts.umn.edu/Events.

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