

RESEARCH YOU CAN USE

LESSONS LEARNED: Denver's Rough Road to I-70 Expansion

HAVE THOUGHT FOR SOME TIME that I should enlist help on this column from someone who is young, smart, and a great writer. I did so with my son-in-law, Kevin Maier, a wildland firefighter, when I wrote about fire-resilient community design last November and was pleased with the result. So for this, my 56th column since 2006, I have enlisted the help of David Proffitt, a planning doctoral student at the University of Utah and a former reporter for the Arizona Republic.

We're focusing on plans to expand Interstate 70 in Denver, which hit a rough patch this year. On the bright side, planners can take away a few lessons from Colorado's troubles.

First, the controversy

For almost two decades, the Colorado Department of Transportation has been planning to widen I-70 where it runs through northeast Denver. The plan is to expand a 10-mile section from six lanes to 10, plus frontage roads, and replace the stretch that currently runs over an aging and little-loved elevated viaduct with a below-grade trench.

Critics say the \$1.2 billion project will increase air pollution in the surrounding neighborhoods, displace hundreds of minority residents, and encourage more sprawling development without doing much to improve the area's connections to the rest of the city. The Colorado Public Interest Research Group has called the I-70 widening one of the most wasteful transportation projects in the country. And earlier this year, the Rocky Mountain Sierra Club, along with several Denver community groups, filed a lawsuit to stop it.

The lawsuit claims that the U.S. Environmental Protection Agency did not provide adequate public notice last fall when it made changes to air quality standards that allowed the project to move forward. Other legal actions are pending against the city of Denver for trying to repurpose municipal golf courses as storm drainage pits to support flood mitigation associated with the highway project, and against CDOT for intentionally, and quite seriously, degrading the environmental health of an already disadvantaged minority community.

Back in 2014, in an effort to get an independent assessment of the project, city elected officials, including the city auditor and a council member at large, sponsored the American Planning Association's Transportation Planning Division to conduct a peer review of the I-70 East project.

I was part of the group of five transportation wonks who evaluated the plans and discussed the project with officials from CDOT, the Denver Regional Council of Governments, the city and county of Denver, representatives from the Colorado Chapter of APA, and community members. Other peer reviewers on the

team were transportation planners Whit Blanton, FAICP, of Orlando, Florida; Michael Piscitelli, AICP, of New Haven, Connecticut; Thomas Dow, AICP, of Olathe, Kansas; and Robert Leiter, FAICP, of San Diego.

While we didn't then, and still don't, know as much about metropolitan Denver's transportation needs as the local professionals who shared their time and expertise with us, the evaluation team found a number of things about the I-70 expansion that gave us pause. Our observations and recommendations are detailed in a 2014 white paper, *I-70 East Reconstruction—Denver, Colorado*, available from APA (tinyurl.com/zzlvyge).

Now, the lessons

The first lessons planners can take away from Colorado's I-70 woes is the existence of the (probably underused) expert peer-review service from the APA Transportation Planning Division's Planner's Advisory Council, which offers research services and high-quality technical assistance to public agencies at a modest cost. For more information, visit TPD's website (planning.org/divisions/transportation/leadership/committees) or contact Daniel Haake, AICP, the division's vice chair of policy, at dhaake@srfconsulting.com.

The second lesson is that a project like this can be analyzed based on research in the planning field and key transportation planning principles. Here are the key recommendations for Colorado's I-70 expansion plan:

DENVER I-70 EXPANSION FOOTPRINT

The expansion of a 10-mile stretch of I-70 in Denver from six lanes to 10 will displace 56 homes and 17 businesses, primarily in the Elyria-Swansea neighborhood, where the replacement of a 2-mile, 53-year-old viaduct (shown at right) with a below-grade freeway will triple the highway's footprint.

■ EXISTING CONDITIONS
■ EXPANDED RIGHT-OF-



SOURCE: COLORADO DEPARTMENT OF TRANSPORTATION

MINIMIZE THE PROJECT FOOTPRINT. One of the most controversial aspects of Denver's I-70 expansion is its size. At 10 lanes with a frontage road on each side, it's wider than the length of a football field. The evaluation team found that CDOT justified the need for a full 10-lane expansion—rather than a scenario with fewer traffic lanes—using outdated modeling software. Compounding the problem, CDOT did not model the impacts of a smaller, eight-lane expansion at all.

ALWAYS CONSIDER INDUCED TRAVEL. Major roadway expansions are like the baseball field in the movie *Field of Dreams*: If you build them, people will drive on them—and in greater numbers than before. Simply increasing highway capacity without providing alternatives to driving such as transit or land-use changes that encourage walking and bicycling will induce more driving and more development along the corridor, likely negating any congestion relief within a few years. In Denver, the models used to justify the widening I-70 to 10 lanes could not fully account for the bump in trip making that adding capacity inevitably creates.

PLAN FOR THE USE OF MANAGED LANES. Adding carpool lanes, transit lanes, or combinations such as high-occupancy toll lanes is much more likely to reduce traffic congestion than simply adding general-purpose lanes. But only if the new managed lanes are carefully planned. One of the problems in Denver is that different people seem to have different things in mind when they talk about adding managed lanes as part of the I-70 expansion. This is not just a public relations problem; it's a planning problem.

AVOID BOTTLENECKS. Common sense suggests that there a serious bottleneck for westbound traffic will be created by having the 10-lane section of I-70 transition down to six lanes to the west of the project. It will create a perpetual traffic jam (and markedly worsened air quality) on I-70 west—and begin an inevitable prelude to widening the freeway west of I-25. An eight-lane cross section would produce a smoother transition to the six-lane section, and that consideration is among the reasons why it should be tested.

Bottom line

The APA consultation cost Denver only a few thousand dollars for travel reimbursement, and paved the way for legal action. Dennis Gallagher, the Denver city auditor at the time of our review, has said: “The APA report pierced the veil of group think surrounding I-70.” What a bargain for the citizens of Denver if it helps stop or downsize this misguided project!

—Reid Ewing

Ewing is chair of the Department of City and Metropolitan Planning at the University of Utah, an associate editor of the *Journal of the American Planning Association*, and an editorial board member of the *Journal of Planning Education and Research* and *Landscape and Urban Planning*. David Proffitt is a doctoral student in Planning, Policy, and Design. More than 50 past Research You Can Use columns are available at mrc.cap.utah.edu/publications/research-you-can-use.

LETTERS

Hazard evacuation resources

The December 2016 Planning article “Out of Harm’s Way” by Craig Guillot provided very good information on some basic principles and practices of evacuation, along with pointers on some key considerations. As a transportation planner, I greatly appreciate the insights presented in the article on an area that is important to me, but I regret the missed opportunity to share more of current and pertinent national-level resources on the topic.

The Federal Highway Administration Office of Operations has many good resources among its Emergency Transportation Operations publications, including “Evacuation for Notice Events” and “Evacuation for No-Notice Events” (tinyurl.com/jb89rfu).

Likewise, the National Cooperative Highway Research Program and Transit Cooperative Research Program from the Transportation Research Board have many resources, especially in the security, emergency management, and resilience publications section (tinyurl.com/jha439p). Most pertinent to this article and topic are NCHRP Report 740, *A Transportation Guide to All-Hazards Emergency Evacuation* and TCRP Report 150, *Communication with Vulnerable Populations, A Transportation and Emergency Management Toolkit*.

The *Traffic Engineering Handbook*, 7th Edition, published in early 2016 by the Institute of Transportation Engineers, includes a new chapter 16: *Traffic Management for Planned, Unplanned and Emergency Events* that includes traffic management guidance for evacuation planning.

FEMA also has extensive guidance for all phases and actions in emergency planning, including evacuation. FEMA guidance is referenced in the FHWA and TRB guides.

—Deborah Matherly, AICP
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Washington, D.C.

Balancing infrastructure and vehicular cycling

Dan Suraci’s commentary (Viewpoint) in the January issue of Planning magazine was excellent! He did a great job addressing the balance between capital investment in facilities and the need for cyclists to be part of the traffic flow. It isn’t either/or, and Suraci captured the dynamics in the debate very well.

—Whit Blanton, FAICP

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