



## HEALTH **IMPACT** IN 5 YEARS

### We Hear You: Public Health and Transportation Listen and Respond to Community Needs and Improve Public Transit Access

Columbia/Boone County Public Health and Human Services  
Stories from Public Health Innovators

#### Introduction

The Centers for Disease Control and Prevention’s (CDC) [Health Impact in 5 Years \(HI-5\)](#)<sup>1</sup> initiative highlights community-wide approaches that can improve the places where we live, learn, work, and play. The following example from Columbia/Boone County (Missouri) Public Health and Human Services was in place before CDC developed the HI-5 initiative, but showcases the components that may be needed to carry out one of the HI-5 evidence-based approaches: [the introduction or expansion of public transportation systems](#).<sup>2</sup>

When Columbia, Missouri considered overhauling its public transit system, the transportation department turned to Columbia/Boone County Public Health and Human Services to lead a health impact assessment (HIA), provide valuable health data, and facilitate conversations with community leaders and residents. After completing the HIA, the public health department continued collaborating with the transit authority through the launch of the new transit system and remains an active partner today.

#### HI-5: Public Transportation System Introduction and Expansion<sup>2</sup>



**The goal:** Increase access to public transit—defined as buses, light rail, or subways—that are available to the public, run at scheduled times, and that may require a fare.



**The strategy:** Build or expand transportation systems to ensure people can reach everyday destinations—such as jobs, schools, healthy food outlets, and healthcare facilities—safely and reliably.



**The health impact:** Public transit is safer than private vehicles, improves air quality, provides opportunities for physical activity, and increases access to vital services.



**The value:** Providing high-quality transit services, including urban rail or “bus rapid transit” systems has the ability to produce per capita annual health benefits of \$355.<sup>3</sup>

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## Problem

In Columbia, Missouri, the city's transit system, previously known as Columbia Transit, became outdated as the city expanded, proving troublesome for current and potential users. The system used an "orbital-pulse" design, where buses started at a central hub, drove a route for 40 minutes, then returned to the hub to pick up passengers who needed a bus or route transfer. With this design, if one bus was late, it slowed down buses on every route because they could not leave the hub until the tardy bus arrived and dropped off riders who needed to transfer. Furthermore, since passengers could only transfer at the central hub, this system would often leave



passengers waiting for buses that were running behind schedule, and a missed bus could mean an 80-minute delay. Transit riders cited Columbia Transit's unreliability and tardiness as their number one complaint when surveyed.

Motivated by passenger dissatisfaction with frequent delays and by reports that customers wanted coverage in areas of the city beyond the current routes, the city decided to update Columbia's transit system. Before creating new routes, the parking and transportation department participated in the HIA led by the public health department to learn more about resident preferences and the health effects a new system could have on the community.

**“ The routes were giant figure 8s across the city. If you missed a bus it would then go to the central hub, take off on the second part of its route, return to the hub, then begin the first part of the route again when it would then pick you up. ”**

Jason Wilcox, MPH, Senior Planner  
Columbia/Boone County Health and Human Services

## Engaging Partners from Multiple Sectors

Before conducting the HIA, the health department had helped the transit department execute a half-fare program for residents meeting an income requirement. The department developed the application, maintained a system for adjusting eligibility as poverty levels changed, helped passengers fill out forms, and even issued the half-fare cards to increase ridership.

Two local organizations, PedNet, a nonprofit group that promotes active transportation, and Central Missouri Community Action, a community advocacy group, received a grant to conduct the HIA, and asked the health department to lead the assessment. The health department's expertise in community outreach, data collection, and data analysis proved invaluable. Health department workers interviewed and surveyed stakeholders, including more than 200

residents. The health department also videotaped some of the community interviews to more effectively illustrate the impact the new transit system would have on residents.



The HIA yielded a number of notable findings about the intersection of health and transportation. A quarter of transit riders surveyed reported they considered a facility's proximity to a bus stop when selecting a healthcare provider. Some riders also indicated they would cut short their appointments with healthcare providers to avoid missing their bus. Some residents with the ability to travel by either car or bus revealed they would consider choosing the bus if the public transit system better suited their needs.

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“ We at the health department were looked at as the neutral party. We were gathering data through the HIA to compare what was happening with public transit nationwide and where it crossed over with what was happening in Columbia. ”

Jason Wilcox, MPH, Senior Planner  
Columbia/Boone County Health and Human Services

Throughout the process, the health department strived to increase awareness and support for the HIA among local institutions by engaging with social service agencies and primary stakeholders including the city manager, deputy city manager, public works director, city council members, and the transit supervisor. After the HIA, the health department presented findings to the city council, along with several city boards and commissions, and impressed upon policy makers the impact that the transit system could have on many social and structural conditions that affect the health of community residents (social determinants of health).<sup>4</sup>



**Social determinants of health<sup>4</sup> are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.**



## Impact

The results of the HIA led the city to substantially revamp its transit routes. Rebranded as “Go COMO,” the new transit layout was designed as a networked system that reached more neighborhoods farther from the center of town. To transport riders directly to services needed across town, it added two core connector routes that ran more often than other lines, and from those, added stops that provided passengers access to banks, grocery stores, parks, and healthcare facilities in surrounding neighborhoods. Over time,

the direct connector routes became the most useful and heavily traveled of the new transit system.

The goals of the transit and public health departments remained aligned in this new phase of the project, with the two agencies holding 20 to 30 public meetings to get feedback on the new routes. After the HIA was conducted, the public health–transportation partnership also hosted stakeholders for half-hour “learning lunches” that informed stakeholders about the value of the HIA, described the proposed transit



routes, and gave community leaders information to share with constituents for feedback. By securing the involvement of local partners who helped spread information about the HIA, Columbia/Boone County Public Health and Human Services was able to generate even more public awareness and ideas.

Thanks to data supplied by public health officials, transit authorities knew the more developed the

transit system, the healthier a community would be. Using census and geographical information system information, the Transit and Parking Department created a map with demographic data that allowed it to plot transit routes that would serve as many of Columbia's residents as possible and increase mobility for its neediest, most disadvantaged citizens.

The transit authority, with the help of community stakeholders, worked to promote use of the transit system by introducing benefits like free rides for passengers on election days and free rides for students under 18 with a valid ID.

## Sustainability and Lessons Learned

The transportation department continued to adapt even after Go COMO launched in August 2014. For example, to continue soliciting public feedback, the department employed new technology to gather ridership data and learned that riders' preferences had changed. Instead of desiring more reliable service and more transit access in locales beyond the old service area, as had been reported during the HIA, now passengers wanted more service along the popular direct-connect routes, information the transit authority could incorporate as it fine-tuned the system to meet residents' needs.

The transportation and public health departments remain committed to a joint endeavor to make the transit system accessible for as many Columbia residents as possible. The public health department promotes transit updates via social media, and will work with the transportation department to post information on bus routes and arrival times in

public health clinic waiting areas. Go COMO also hired a transportation consultant to review the system and help create a plan to better coordinate among the city, universities, and businesses, while keeping health a priority.



In Columbia, the public health department learned that local leaders were key to the project's success. Along with public input, the enthusiastic support of policy makers increased participation in the HIA and acceptance of its findings. The health department also found it incredibly valuable to collaborate with other city agencies to better serve their overlapping clientele.



HEALTH IMPACT IN 5 YEARS

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## About CDC's HI-5 (Health Impact in 5 Years) Initiative

HI-5 strategies can help you achieve healthy outcomes in your community in 5 years or less, providing good economic value for the investment. CDC reviewed the science to focus on 14 proven approaches that rose to the top as attainable wins for public health. The introduction or expansion of public transportation is just one of the 14 evidence-based interventions identified. CDC's HI-5 initiative can help you make decisions about what works and where to focus efforts to improve public health. To find out more about how your community can use the HI-5 initiative to improve the health of all people, visit the HI-5 website: [www.cdc.gov/hi5](http://www.cdc.gov/hi5).

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## References

1. Centers for Disease Control and Prevention. Health Impact in 5 Years: <https://www.cdc.gov/policy/hst/hi5/>. Accessed November 16, 2017.
2. Centers for Disease Control and Prevention. Health Impact in 5 Years: Public Transportation System: Introduction or Expansion: <https://www.cdc.gov/policy/hst/hi5/publictransportation/index.html>. Accessed November 16, 2017.
3. Litman, T., Evaluating Public Transportation Health Benefits. 2010, Victoria Transport Policy Institute: Evaluating Public Transportation Health Benefits. Accessed November 16, 2017.
4. U.S. Department of Health and Human Services, 2017. Healthy People 2020. Social Determinants of Health. Available from: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>. Accessed December 8, 2017.

For more case examples of HI-5 approaches, please refer to [www.cdc.gov/hi5](http://www.cdc.gov/hi5)

