

# LOCAL GOVERNMENT, TRANSPORTATION AND HEALTH COLLABORATING TO PREVENT OBESITY

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## WHY SHOULD LOCAL GOVERNMENT, TRANSPORTATION AND HEALTH OFFICIALS WORK TO PREVENT OBESITY?

One of the leading national health concerns today is the escalating rates of obesity. Older adults, in particular, account for the highest prevalence of overweight and obese individuals.<sup>1,2</sup> Approximately \$100 billion in health care costs each year can be attributed to obesity.<sup>3</sup> These costs hit individual pocketbooks directly through a 36% annual increase in individual healthcare costs.<sup>4</sup> Missouri has seen an increase in obesity rates from 10-14% in 1988 to 15-19% in 1998 and 25-29% in 2008.<sup>5</sup>

With obesity on the rise, public health professionals are encouraging people to walk more and eat healthier. Yet, most American adults (51.2%) and St. Louis adults (50%) do not reach the recommended physical activity levels.<sup>6,7</sup> Increasing access to public transit systems can help residents benefit from more physical activity as part of their daily routine.

Public transit is not simply a mode of transportation; it is also a way of life for many residents of St. Louis. Use of our major public transit systems, MetroLink and MetroBus, increased 2.1% between 2004 and 2005. Across the United States, public transit has increased 32% from 1995 to 2007.<sup>8</sup>

By 2025, about 20% of the U.S. population will be 65 and over. Many of these older adults depend on public transportation to go about their day to day activities; this translates into an increased demand for public transit services.<sup>9</sup> At the same time, use of public transit leads to more walking to get to and from transit stations and destinations such as home, work, grocery stores, restaurants and pharmacies. Increases in walking result in greater health benefits for these older adults by preventing illnesses or injuries, such as heart disease, arthritis, diabetes, broken bones or fractures and depression.<sup>10,11</sup>

In this troubled economy and environment, public transit can reduce financial strains, carbon footprints and social isolation. An average American household will spend 18% of its earnings on transportation; however, in two-worker households that use public transit, families save an estimated \$6,251 a year. For every mile traveled, public transit uses about half the fuel of cars and a third of the fuel of sport utility vehicles.<sup>9</sup> Commuters using public transit lower their carbon footprint by 10%.<sup>9</sup> Transit use also increases exposure to public spaces resulting in more opportunities for civic engagement and social interaction.<sup>9</sup>

For all of these reasons, public transit improves the quality of life of St. Louis residents, particularly for those who would not ordinarily be able to transport themselves.<sup>9</sup> For older adults, lower income individuals and families without cars, public transit gives them the ability to go to the grocery store, pharmacy and work. In short, public transit, including MetroLink and MetroBus, can provide real benefits for the health, economic, environmental and social climate of St. Louis.<sup>3,4</sup>



## HOW CAN LOCAL GOVERNMENT, TRANSPORTATION AND HEALTH OFFICIALS MAKE A DIFFERENCE?

Local government officials and public transit authorities can collaborate to create environments that support active living. Active living is physical activity, such as walking or biking, which occurs as part of an everyday routine. The goal of active living is to get at least thirty minutes of physical activity every day.

Local governments can construct environments that encourage walking, biking and public transit use by adhering to the following principles:

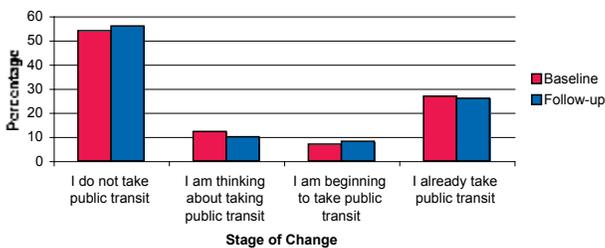
- Combine and integrate residential and commercial land uses. For example, people who live in neighborhoods where they can easily walk to businesses and stores have a 35% lower risk of obesity.<sup>12</sup>
- Plan complete streets to accommodate all users (pedestrians, bicyclists, transit users and drivers) and maximize connectivity.
- Design safe and inviting places to walk, bike and use transit. For example, residents of neighborhoods with safe and inviting places to walk are 16% more likely to achieve recommended levels of physical activity.<sup>12</sup>
- Connect neighborhoods through a safe, affordable public transit system.
- Increase equitable access to parks, playgrounds and recreational facilities through public transit.
- Implement road diets and traffic calming measures to increase pedestrian, bicyclist and transit user safety.

Now is the time to provide access to the most sustainable forms of transportation – walking, biking and public transit use. It is imperative for government officials to work with public transit authorities and health agencies to design, build and maintain these sustainable forms of transportation.

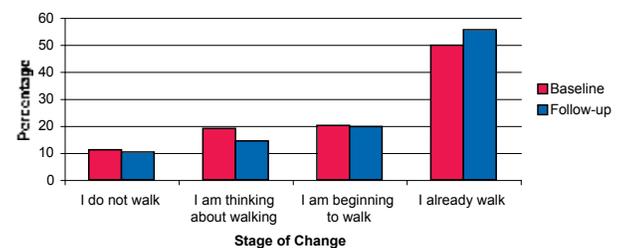
## WHAT IS THE TEN TOE EXPRESS PROGRAM AND HOW DOES IT PROVIDE A MODEL FOR THE ST. LOUIS AREA?

Citizens for Modern Transit, a St. Louis transit advocacy group, collaborated with Transtria LLC, a public health research and consulting firm, through funding from the Missouri Foundation for Health and East West Gateway Council of Governments to adapt Portland's Ten Toe Express program to the St. Louis area. The purpose of the Ten Toe Express program is to increase walking and public transit use, with a focus on older adults. Walking kits have been distributed to 4,027 individuals and 420 participants have joined weekly volunteer-led walking groups. Walking kits include a digital pedometer to count steps, walking and eating logs, walking tour maps of St. Louis neighborhoods, a coupon book for local businesses and educational materials for physical activity and nutrition. Weekly walking groups use public transit to travel to exciting destinations throughout the St. Louis metropolitan area and build supportive networks. Since 2007, the Ten Toe Express program has made a real difference in walking and public transit use among older adults in the St. Louis community and reducing time spent traveling by car.

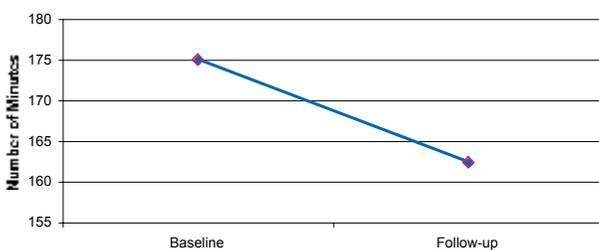
Intention to take public transit as part of a daily routine (p=0.014, Wilcoxon)



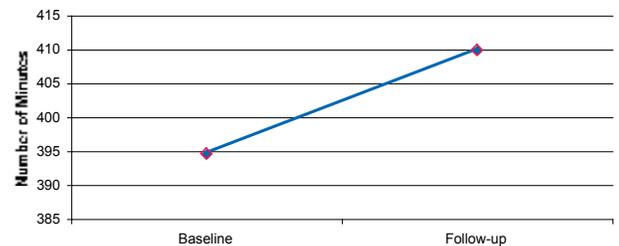
Intention to walk as part of a daily routine (p<0.001, Wilcoxon)



Daily Minutes Spent in a Motor Vehicle (p=0.012, Wilcoxon)



Weekly Minutes of Walking (p=0.030, Wilcoxon)



Participants have been very enthusiastic about the program. In fact, 90% wanted to participate in the program again and almost a quarter of participants said they would pay \$5 - 10 for the walking kit. Several participants reported losing weight, exercising more and walking more from using public transit and many increased awareness of the foods they are eating:

- “This program is great because it combines walking and sight-seeing.”
- “I now feel more comfortable using the MetroLink because I had never used it before the program.”
- “I enjoy this program ‘cause I love to walk in Forest Park trails. Sometimes I have trouble with hips but I have lost 30 pounds.”
- “The program was very rewarding; I will be following the suggestions for healthier eating habits and continuing a walk schedule.”

## WHAT HAVE TEN TOE EXPRESS PARTICIPANTS SAID ABOUT THE WALKABILITY AND BIKABILITY OF METROLINK STATIONS AND THE SURROUNDING COMMUNITIES?

As part of the Ten Toe Express program, trained public health research assistants worked with participants to identify ways to make the environments in and around the MetroLink stations more inviting and conducive to active living. Environmental audits of each Missouri MetroLink station and its surrounding area highlighted strengths and weaknesses through photographs and recorded conversations.



In 2006, trained public health research assistants audited the 26 Missouri MetroLink stations and their surrounding areas. In 2008, the 26 stations were audited by volunteers, including participants from the Ten Toe Express program and Citizens for Modern Transit members. Volunteers were asked to consider different perspectives in their audits, including a mother with a stroller, an individual with a wheelchair or walker and a bicyclist. Volunteers photographed and commented on the strengths and weaknesses in the environments.

Five major categories were identified from the audits: destinations, accessibility, safety, amenities, and maintenance.<sup>13</sup>

Destinations describe the integration of residential and commercial land uses with MetroLink stations (transit-oriented design) and in the community surrounding the station. Mixed-use developments involving higher density residential units and “main street” types of shops (grocery stores, pharmacies), restaurants and entertainment score higher on destinations while sprawling suburban communities with “big box” retail outlets score lower.

Accessibility refers to the capacity of the MetroLink station and the surrounding community to accommodate all types of users (e.g., pedestrians, bicyclists, drivers, older adults, children, people with disabilities). Sidewalks, crosswalks, bike lanes, paths and traffic calming measures can increase access to the station from the surrounding neighborhoods, platform space, elevators and ramps can increase accessibility scores.

Safety, both real and perceived, is protection from danger, risk, or injury; it includes interpersonal safety, or safeguards against crime (e.g., assault, drug use, gangs, robbery), and physical safety or eliminating hazards in the environment (e.g., sidewalk cracks, traffic speed, poor lighting). Security guards, clean, well-maintained facilities and traffic calming measures can increase safety scores.



Amenities include the accommodations and features of the MetroLink stations and surrounding communities that increase the interest and comfort of users. Benches, restrooms, drinking fountains, public phones, artwork, vegetation and other cultural or historical displays can increase the amenities score.

Maintenance is used to describe the overall upkeep of the MetroLink stations and surrounding communities. Maintenance includes the cleanliness, attractiveness and preservation of the area. Trash, odors and poorly maintained facilities and grounds may all detract from a positive score in this category.

Union Station (2,953 riders)  
 Clayton (923 riders)  
 Shrewsbury (2,363 riders)  
 Sunnen (333 riders)  
 Delmar Loop (2,721 riders)  
 Convention (3,473 riders)  
 Brentwood (1,051 riders)  
 Arch-Lacledes (1,209 riders)  
 Rock Road (2,408 riders)  
 Civic Center (2,852 riders)

RANKING	1	2	3	4	5	6	7	8	9	10
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**Priority # 1: Destinations**

Residential	N/A	5	5	0	5	0	0	0	5	0
Commercial	5	5	0	5	5	5	5	5	0	5

**Priority # 2: Accessibility**

Signage	4	0	N/A	N/A	4	0	N/A	0	N/A	0
Parking	4	4	4	0	4	0	4	0	4	0
Sidewalk access	N/A	0	4	4	0	N/A	N/A	0	N/A	N/A
Train platform	N/A	0	4	4	N/A	N/A	N/A	N/A	N/A	N/A
Traffic calming	4	0	N/A	0	0	4	0	4	4	4
Crossing aids	4	4	N/A	0	0	4	0	4	4	4
Elevator	4	4	4	0	N/A	4	0	4	N/A	N/A

**Priority # 3: Safety**

Feels safe from crime	3	3	3	3	3	3	3	0	0	3
Safe during night	0	N/A	3	3	3	N/A	N/A	0	N/A	N/A
Lighting	3	3	3	3	N/A	3	3	3	3	3
Security	N/A	N/A	N/A	N/A	N/A	0	3	3	2	3

**Priority # 4: Maintenance**

Vegetation (flowers, trees)	0	0	2	2	2	N/A	2	0	2	2
Condition of station	2	2	N/A	2	0	2	2	0	0	N/A
Absence of Noise	N/A	0	0	2	N/A	2	2	2	N/A	N/A

**Priority # 5: Amenities**

Bike racks	N/A	1	1	1	N/A	N/A	1	0	0	0
Restrooms (at station)	1	1	N/A	0	0	0	0	0	0	0
Trash bins	1	1	1	1	1	1	1	1	1	1
Benches	1	1	1	1	1	1	1	1	1	1
Public telephones	1	1	N/A	1	1	0	1	N/A	1	1
<b>TOTAL*</b>	<b>37</b>	<b>35</b>	<b>35</b>	<b>32</b>	<b>29</b>	<b>29</b>	<b>28</b>	<b>27</b>	<b>27</b>	<b>27</b>

\*Priority #1 items received 5 points if present, priority #2 items received 4 points if present and so on. For all items not present, a 0 was given. If the items were not discussed by the volunteers they were marked as not applicable (N/A). A 1 point deduction was given for items with insufficient quantity.

Central West End (6,232 riders)  
 8th & Pine (2,851 riders)  
 Stadium (789 riders)  
 Skinker (735 riders)  
 University City (555 riders)  
 Lambert-East (1,095 riders)  
 UMSL-South (1,105 riders)  
 UMSL-North (828 riders)  
 Maplewood (705 riders)  
 Wellston (1,568 riders)  
 Richmond Heights (829 riders)  
 North Hanley (3,939 riders)  
 Forest Park (5,438 riders)  
 Grand (4,455 riders)  
 Forsyth (358 riders)  
 Lambert-Main (3,978 riders)

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
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N/A	N/A	0	0	5	0	0	0	0	5	0	5	5	0	0	0
5	5	5	0	0	5	5	5	5	0	0	0	0	5	0	5

0	0	0	0	4	4	0	0	0	N/A	N/A	0	0	4	N/A	N/A
4	0	0	0	N/A	4	4	3	0	4	N/A	4	N/A	0	0	N/A
N/A	N/A	0	0	0	N/A	N/A	4	4	N/A	N/A	0	N/A	0	0	N/A
0	N/A	N/A	4	N/A	0	N/A	N/A	N/A							
4	4	4	0	0	N/A	0	N/A	0	0	0	0	0	N/A	0	N/A
4	4	4	4	4	N/A	0	N/A	0	0	0	0	0	N/A	0	N/A
4	4	0	4	4	4	N/A	N/A	4	N/A	0	N/A	N/A	4	N/A	0

N/A	N/A	3	N/A	3	N/A	0	3	N/A	0	3	N/A	3	0	3	N/A
N/A	N/A	3	N/A	N/A	0	0	0	0	N/A	3	0	N/A	N/A	3	0
N/A	3	3	3	N/A	N/A	3	N/A	N/A	3	3	N/A	N/A	N/A	3	N/A
N/A	N/A	N/A	3	N/A	3	N/A	N/A	N/A	0	N/A	N/A	3	N/A	N/A	3

0	2	N/A	2	N/A	N/A	2	N/A	2	2	2	2	N/A	N/A	0	0
2	N/A	0	N/A	N/A	N/A	2	N/A	N/A	N/A	2	2	0	0	N/A	2
0	N/A	N/A	0	N/A	0	N/A	N/A	N/A							

N/A	N/A	0	1	N/A	0	1	0	0	1	1	0	N/A	N/A	1	0
0	0	N/A	0	N/A	0	0	0	0	0	0	N/A	0	N/A	0	N/A
1	1	1	1	1	N/A	1	1	1	1	1	1	1	N/A	0	N/A
1	1	1	1	1	1	1	1	1	1	1	1	1	N/A	1	1
0	1	1	1	1	N/A	1	1	1	1	1	1	1	N/A	1	N/A
25	25	25	24	23	21	20	18	18	18	17	16	14	13	12	11

## WHAT IS THE WALKABILITY AND BIKABILITY OF METROLINK STATIONS AND THEIR SURROUNDING AREAS?

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Findings from the audits of 26 Missouri MetroLink stations are described below and summarized in the table preceding this section.

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### DESTINATIONS

**Residential.** Several stations are located near residential communities. For example, participants liked the Sunnen station because it is a “live and ride station.” The station is easily accessed by the nearby single-family homes and apartment buildings. Building residential areas around the stations allows residents to commute without having to own a personal vehicle. By locating residential land uses next to MetroLink stations, local government officials can attract individuals moving to the area without personal transportation. The Arch-Laclede and UMSL North stations are mainly surrounded by commercial land uses, so it may be ideal to develop residential areas close to these stations.

**Commercial.** Many of the MetroLink stations in the St. Louis area are surrounded by commercial land uses. The Clayton and Central West End stations have several restaurants and businesses within one-half mile. However, there are some stations that do not have many places within walking distance. North Hanley and Shrewsbury are two stations that could benefit from more commercial land uses in the vicinity of the station.

**Land use mix.** Transit-Oriented Development (TOD) refers to development around the stations that includes both residential and commercial land uses (e.g., homes, businesses, schools). TOD increases the benefits of having many destinations within a community and a good connection to neighboring communities. These areas are pedestrian-friendly and often have buildings with both commercial and residential accommodations. Most of the stations in the St. Louis metropolitan area do not have TOD patterns. Several stations, including Maplewood, Shrewsbury, Sunnen and Grand are examples of stations that could really benefit from mixed land uses. In fact, some stations have vacant land or abandoned property nearby that could easily support mixed land uses.

**Integration with MetroLink station.** Participants expressed concern that instead of integrating the stations into the neighborhood the communities sometimes alienated the stations. For example, there is no access to the nearby hotel at the Forsyth station.

### ACCESSIBILITY

**Crosswalks, sidewalks and train crossings.** Participants described many necessary improvements to the communities surrounding the stations. In some cases, there were no crosswalks or sidewalks leading to the stations. A few of the crossing aids present at traffic signals did not provide enough time to cross the street. Participants suggested countdown timers for the signals in these areas. Countdown timers end confusion about when to cross an intersection and give a clear idea of real time left to complete the crossing. Other stations had inadequate curb cuts (ramps to get on sidewalks) or sidewalks that were too narrow.



**Signage.** Signs at the stations appeared to be too small, confusing or difficult to see at night. Existing signs need to be updated and signs need to be added in several locations. For example, there were no visible signs indicating directions to the elevator when entering the 8th and Pine station. An “accessible via elevator” sign at the Clayton station was very hard to read because it had faded. Adding signs and updating the current signs could improve accessibility at several of the stations.

**Parking.** Some stations had limited parking and others had no parking. For example, participants stated that if you don’t arrive early to the UMSL-North station, you will not get a parking spot.

**Other.** A few other challenges found at the MetroLink stations with regard to accessibility included the absence of a ticket validator on the platform, no elevator, confusing entrances and no drop off spot.



## AMENITIES

**Trash cans, benches, bike racks and ashtrays.** Almost every station had trash cans, benches, bike racks, and ashtrays. However, there are not enough of these amenities since the ridership has increased.

**Vegetation and artwork.** Some of the stations had these features and others did not. For example, the Convention Center station was reported as being dull and not aesthetically pleasing, possibly due to a lack of landscaping or artwork. The Grand station was considered dirty, not well-maintained, and not aesthetically pleasing. Even though most locations had flowers or artwork, there are still a few without any features to create a pleasurable, inviting look and feel to the area.

**Water fountains, restrooms, covered benches or heaters.** These amenities can increase ridership. The heaters, only visible at the Forest Park station, were favorably commented on several times. Volunteers, who were mainly MetroLink riders, suggested providing heaters at other locations to make the wait in the winter more bearable.



## SAFETY

**Law enforcement.** Many people think public transit is unsafe and that riding it increases their chances of being robbed or assaulted. To increase public transit ridership, it may help to educate people about real incidents of crime versus perceptions of safety and to develop law enforcement or community policing strategies to address safety.

**Daytime safety versus nighttime safety.** Participants felt safe from crime at the stations during the day. There were mixed feelings about personal safety during the evening and nighttime hours.

**Security officers.** In the presence of security officers spotted at certain stations, participants expressed feeling safe. Some volunteers felt a second officer or an undercover officer was necessary at the Rock Road station. There were passengers on the MetroLink train that made a few of the volunteers feel uncomfortable during their trip, therefore a suggestion was made that a guard ride the train.

**Changes to station conditions.** Better lighting and eliminating bushes or other places for people to hide can make the stations feel safer. The stations that were more closed in, had elevators without windows, and enclosed steps brought on a less secure feeling overall. The actual track felt unsafe to cross without any warning device. There were tripping hazards such as sewer lids, pipes sticking out, and uneven platform edges.

**Changes to community conditions.** Pot-holes were noticed on a crosswalk, and in some cases, the ramps were identified as being too steep. Traffic speed and volume are often identified as potential threats to physical safety.

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## MAINTENANCE

**Trash.** The train platform and surrounding communities that had an abundance of trash decreased the overall appearance of the areas. The waste containers placed close to a few of the stations were noticed to be empty and broken. Replacing and filling the containers would help create a cleaner, more inviting environment.

**Foul odors.** Participants complained of foul odors at some of the stations, particularly the elevator at the Arch-Laclede Landing station and more generally at the North Hanley station.

**Noise pollution.** Loud noises were disturbing to participants at a few of the stations but participants were unable to identify specific recommendations for improvement.

## WHAT SPECIFIC ACTIONS CAN BE TAKEN BY LOCAL GOVERNMENT, TRANSPORTATION AND HEALTH OFFICIALS IN ST. LOUIS?

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Several areas for improvement are recommended to increase walkability, bikability and public transit use in St. Louis:

**DESTINATIONS:** Promote mixed land use and transit-oriented development near the MetroLink stations to encourage community members to walk, bike and use transit. Increasing the number of pedestrians, bicyclists and transit riders may also increase safety and accessibility.

**ACCESSIBILITY:** Provide facilities to support walking and biking, including wide, smooth sidewalks, bike lanes, and crossing aids. Existing signage should be updated with larger print and clear directions to enhance navigation to the station and within the station. Even though the stations meet American Disability Act (ADA) accessibility guidelines, new signage can be added to create a more user-friendly experience (e.g., denoting elevators or ramps). Offer adequate parking infrastructure; however, the structures should minimize land use (e.g., garages) and they should be placed in setbacks so traffic does not disrupt walkability and bikability.

**SAFETY:** Staff the stations, trains and surrounding areas with security guards and work with local law enforcement officials to increase feelings of safety. Ensure adequate lighting and good visibility in and around the stations. Remove any hazards that may make it difficult to walk or bike (e.g., traffic speed and volume, cracks in sidewalks, grates in bike lanes, potholes, pipes).

**AMENITIES:** Install restrooms, water fountains, and heaters as well as more bike racks, benches and trash bins in or around the platforms at each station. Placing trash cans in several locations at the station may decrease the amount of trash thrown on the ground, improving maintenance and the overall appearance.

**MAINTENANCE:** Remove garbage and litter to create a clean appearance at each station and in the communities surrounding the stations. Trim and manicure the vegetation regularly to enhance visibility and perceived safety as well as the overall look and feel of the area. Clean and sanitize elevators and other facilities that may have foul odors.

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