



Central Park Boulevard, Denver CO Commuter Rail Station Health Impact Assessment

Commissioned by the

Stapleton Foundation
for sustainable urban communities

Completed January 2012



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Acknowledgements

Commissioned by:

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The Stapleton Foundation and EnviroHealth Consulting wish to express appreciation to the following Denver departments and staff, community members and organizations for sharing data and providing input and support that was used in this report:

The Piton Foundation

City of Denver Community Planning and Development (Data and maps, consultation)

City of Denver Department of Environmental Health (Data and consultation)

Denver Urban Gardens (data and consultation)

City of Denver Technology Services (GIS Maps)

Taking Neighborhood Health to Heart (data)

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Special Thanks to:

Theresa Lucero and David Gaspers, Department of Community Planning and Development

David Erickson and Denver Department of Environmental Health

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Executive Summary

A growing body of research indicates that the built environment can have an enormous effect on human health in communities throughout the United States. Urban planning decisions can significantly impact physical and mental health, equity, safety and social well being and should be assessed to understand their effects on the residents, especially those who are most vulnerable. Since diversity is one of the most significant drivers of success toward a competitive, sustainable, equitable and challenging community environment, it is important to have a focused and deliberate strategy that promotes diversity and multiculturalism. In recent years many communities, organizations and local governments have begun performing Health Impact Assessments (HIA) to analyze the health impacts of new projects, proposed policies and the existing built environment for more equitable, safe, and healthy residents and neighborhoods.

At the outset of the process of creating a local area plan for the Central Park Boulevard Commuter Rail Station by the City of Denver's Community Planning and Development Department, the Stapleton Foundation for Sustainable Urban Communities hired EnviroHealth Consulting to assist with completing an HIA. The HIA covers the station area and the communities within a mile and a half from the station. The study area for this HIA contains neighborhoods as well as commercial and industrial areas located within a broad rectangle bounded by Montview Blvd, Holly St., 56nd Ave. and Peoria St. The HIA focuses primarily on the residential neighborhoods of Northeast (NE) Park Hill, North (N) Park Hill, Northwest (NW) Aurora and much of Stapleton. Somewhat less attention is given to the industrial areas north of the proposed station and the Northfield Shopping Center because of the lack of people currently living in the area. We do however address connectivity issues to these places as they are major employment centers.

This project aligns with the City of Denver's goal to develop more transit-oriented developments (TOD), which is the creation of compact, walkable communities located around train systems. Properly developed, the station area would provide affordable, safe and accessible transportation options for people of all incomes, backgrounds and abilities. Walking and bicycling to the station and surrounding services can be a basic form of transportation to work, school or play, and can be an important source of daily recommended levels physical activity.

Meetings with the Stapleton Foundation and members of the Central Park Station Area Plan Key Stakeholder Committee identified several issues that they felt needed assessment. These have been formatted into five primary questions that form the framework of this report. These questions are:

1. What is the current health status of the population within the study area and how might it be affected (positively and negatively) by the Central Park Station and development at the TOD Site?
2. What pedestrian and bicycle routes should be enhanced/created in order to better connect local residents and employees to the station area?

3. What transit routes would help connect local residents and employees to the station area, employment centers and other local services?

4. What programming and/or housing policy would be necessary to ensure a diverse population of the people, within the neighborhoods in the study area, benefit from the development of the TOD Site?

5. What need (if any) is there for a grocery store that sells and promotes healthy and affordable food items near the TOD Site?

In addition to the Central Park Station Area Plan Key Stakeholder Committee, each question is answered using data from local, state and national sources, on the ground observations, analysis based on scientific research, and the experience of other health and planning organizations and professionals. Following the analysis, specific recommendations are provided for each of the five questions. The following is a synopsis of each question and the proposed recommendations.

Question 1: What is the current health status of the population within the study area and how might it be affected (positively and negatively) by the new station and its subsequent development?

Experts in the field of public health have indicated that several populations are more prone to experience the negative health consequences of the built environment. These “at risk populations” include, people of color, senior citizens, children (especially those in poverty), low income, and poorly educated households, and people with disabilities. The report describes each of these populations within the study area.

Based on this analysis, there is a high probability that vast health disparities exist between the four neighborhoods studied. With high numbers of people of color, low-income households and disabled persons, NE Park Hill and NW Aurora are likely to have the worst health outcomes of the four neighborhoods. N Park Hill is on a somewhat better foothold, but still has average to high numbers of the previous groups and the largest number of senior citizens of any of the neighborhoods. Stapleton is by far the healthiest neighborhood of the study area based on its demographics. A closer look at health data from the 2006-2008 Taking Neighborhood Health to Heart (TNHtH) survey and the Colorado Behavioral Risk Factor Surveillance System (BRFSS) indicates that the health status of residents in NE Park Hill and NW Aurora have higher rates of poverty than those in N Park Hill and much higher than those living in Stapleton. Additionally, residents of Stapleton’s neighboring communities, have higher incidences of crime, lower levels of social cohesion and poorer access to parks and recreation. These indicators may cause and certainly amplify the existing health problems experienced in these communities.

After assessing the health status of the existing neighborhoods, the HIA then addresses the impacts of the future commuter rail station and development plan. In the short term the new station will likely bring more traffic to the area, but if quickly and properly developed the station could have profound impacts on the local communities, including convenient and equitable access to multi-modal transit, access to daily services and basic needs, the provision of affordable

housing options, and the promotion of social cohesion within Stapleton and the surrounding neighborhoods.

Based on the assessment of the local neighborhood and a thorough review of the Healthy Development Measurement tool created by the San Francisco Department of Public Health, we created a set of 12 recommendations related to this question specific to the station area. Primary among these recommendations is the need to develop station area parking structures sooner rather than later (consistent with RTD suggestion) as surface lots do not promote public health. Other recommendations call for the creation of a highly pedestrian and bicycle friendly environment, a safe, efficient and comfortable transit experience, managed parking and appropriate social infrastructure including access to daily goods and services and publicly accessible space.

Question 2: What pedestrian and bicycle routes should be enhanced or created in order to better connect local residents and employees to the station area?

As a major transportation hub for the local neighborhood and region, it is highly likely that the new Central Park Blvd. Station will be an area of increased walking and biking activity. While the master plan of Stapleton has done an excellent job of creating a walkable and bikeable neighborhood with adequate sidewalks, off street pedestrian and bike paths and on-street bike lanes, the development of the station provides the impetus to improve this system and certainly better connect it to the surrounding neighborhoods.

The bulk of pedestrian traffic created by the new station will come from neighborhoods within a half-mile radius (a 10 minute walk) from the station. As it stands today few people live in this radius. Therefore many of the changes that need to be made in order to increase pedestrian access to the station will need to be made during the development of the adjacent parcels. This report notes a few exceptions to this including some recommended pedestrian connections to Quebec Square and local hotels as well as the need for some additional safe pedestrian crossings of major arterial streets especially around the new Swigert-McAulliffe International K-8 Public School.

Stapleton and the surrounding neighborhoods also have a significant number of residents who ride bikes to get from place to place; it is highly likely that many of them will ride bikes to the station area either to shop or to access further transit options. While Stapleton has adequate bike infrastructure, residents of the surrounding communities that may choose to bike to the station area should be able to enjoy the same level of connectivity and safety as the residents of Stapleton. The Denver Moves Bicycle Plan does an adequate job of addressing this issue, but fails to take into consideration the complicated and potentially dangerous crossings of Quebec St. west of Stapleton and the lack of bicycle connections to NW Aurora (although the latter may be partially addressed through a Denver-Aurora intergovernmental agreement) . The creation of bike infrastructure in and of itself, however, may not encourage more active transit from the adjacent communities, especially if issues of perceived high crime are not addressed in the neighborhoods adjacent to Quebec St. and NW Aurora.

Nine recommendations to improve bike and pedestrian access to the station were made in this section. These include immediate station area improvements such as creating pedestrian connections to Quebec Square, local hotels and the new K-8 School. They also include broader goals including implementation of the Denver Moves Plan, improving pedestrian and bike access across major arterial streets such as Central Park Blvd, MLK, Montview and Quebec, carrying out the Denver/Aurora inter-governmental agreement for the connection of the Stapleton and Aurora street grids, and working to decrease crime in adjacent neighborhoods.

Question 3: What transit routes would help connect local residents and employees to the station area, employment centers and other local amenities?

The new Central Park Blvd Station will improve access to opportunities for work and recreation for many people around the Denver metro area. On its own the station cannot provide all the transportation options for people living in the study area, therefore bus transit to and from the station, job centers and surrounding neighborhoods will remain a vital service for many of the low-income and mobility-challenged people who live in the area. When the station opens, RTD will likely adjust bus routes to and from the station accordingly. Therefore, now is the best opportunity to assess what improvements in service should be made for the local residents.

An analysis of current bus routes, the distribution of employment within the area, and access issues to local amenities resulted in six recommendations for existing bus transit. First and foremost is the need to provide enhanced bus service to the station from the surrounding communities. Secondary to this is to provide increased service to major employment, health, recreation, and retail centers located around the community, namely the Fitzsimons medical campus, the Central Park, Hiawatha Davis and Martin Luther King Recreation Centers, Northfield shopping center, and the industrial areas north of I-70. As more development occurs north of I-70, the feasibility of extending bus service from the station to Dick's Sporting Goods Park and the new neighborhoods should also be studied. Finally, creating a circulator-style shuttle within the Stapleton development would potentially help reduce vehicle trips and create a more transit-oriented lifestyle within the geographically large neighborhood and support its connections to the surrounding neighborhoods. Lastly, conduct focus groups or a community survey to prioritize these transit expansions.

Question 4: What programming and/or housing policy would be necessary to ensure a diverse population of the people, within the neighborhoods in the study area, benefit from the development of the transit-oriented community (TOD) site?

Determining the right mix of housing near a transit station is a vital component of creating a transit-oriented development. Often times the cost of new construction and the high demand for housing proves too costly for those who would benefit the most from living in a new TOD. While there is a considerable amount of affordable housing in the older neighborhoods surrounding Stapleton, there are very few affordable housing options that are within walking distance (or a short bike ride) of the future station. Given the high level of transit access and the high density zoning of the site, the station area provides one of the best opportunities to provide such housing.

This report makes nine recommendations in this area. First, to ensure that there is an appropriate variety of housing options within the station development, it is recommended that there be at least 20-40 dwelling units per acre (gross), a high percentage of rental units, 20% affordable housing options and special accommodations for seniors. Other recommendations focus on prioritizing existing affordable projects in the immediate vicinity, conducting further inventories and assessments of existing affordable housing and suggesting options and funding mechanisms that might help make affordable housing at the station a reality.

Question 5: What need (if any) is there for a grocery store that sells and promotes healthy and affordable food items near the TOD Site?

Having access to healthy food is as necessary to good health as physical activity. For low-income individuals (especially those without access to automobiles) access to healthy food is often difficult since large grocery stores with healthy food options are often too far away from where they live. Currently there are five stores that sell fresh fruits and vegetables within the study area although one of them is small and offers limited options. Nevertheless, there are certain areas (especially in NE Park Hill and NW Aurora) that have serious access issues.

Given the proximity of the station to three large grocers (King Soopers, Target and Wal-Mart) it is highly unlikely that a new grocer will be willing to locate a new store at the transit station. Still, there may be opportunities to improve access to healthy food in the new development through partnerships with local community gardens and urban agricultural organizations, the creation of farmers markets and the promotion of healthy eating establishments.

The report describes seven recommendations for improving food access in the study area. These recommendations vary from encouraging small scale grocery outlets in underserved areas to offer some healthy options, to encouraging urban agriculture by creating community gardens at the station area and within underserved neighborhoods. Other suggestions include forming partnerships with The Urban Farm at Stapleton to create a farmers market at the station area, improving bike and pedestrian access to existing grocery stores and discouraging fast food establishments within the station area.



Introduction

The United States is ranked 32nd in the world in life expectancy¹. Good health care is vital, but a growing body of research indicates that the built environment can have an enormous effect on human health. The availability of transportation options, housing quality, access to jobs and healthy food all shape a person's behaviors and influence their health status and quality-of-life. How communities are designed and developed can shape these living conditions. Nationwide, evidence shows that land use decisions significantly impact physical and mental health, safety, and social well-being. Other impacts include community networks, economic growth, energy use, environmental sustainability and social equity. This health impact assessment (HIA) describes the opportunities that exist for incorporating health into the Central Park Blvd station area planning process.

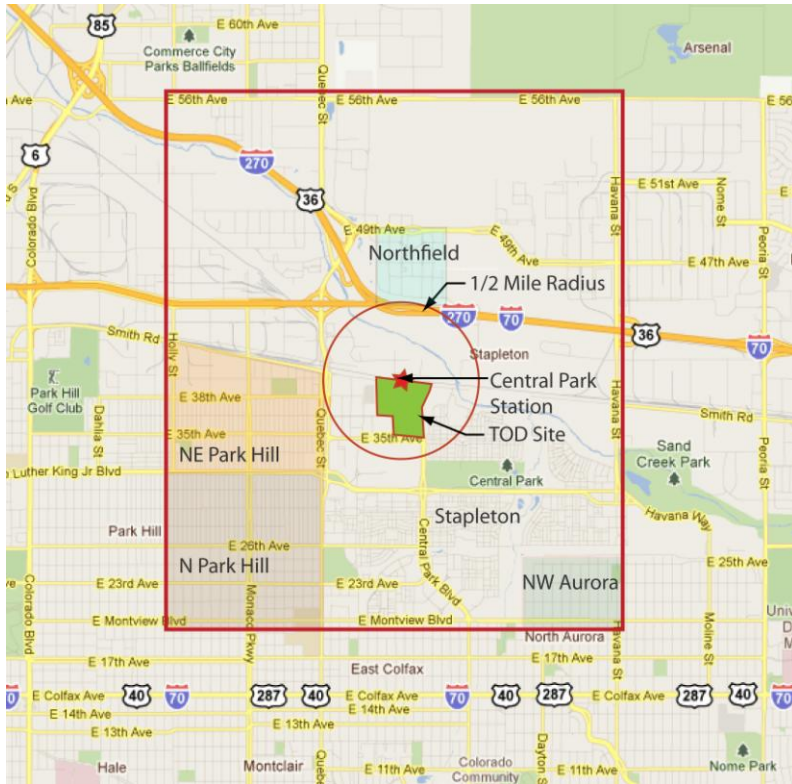
New design recommendations, programs and policies related to the built environment can make important contributions to improvements in the health of those living nearby the Central Park Blvd transit station. The nearby communities that are central to this HIA are Northeast Park Hill, North Park Hill, Stapleton, and Northwest Aurora. Equity and health disparity issues are apparent among most of these communities and their comparison across the state and the U.S. are addressed throughout this HIA along with identifying vulnerable populations such as seniors and children. Evidence based and community data along with numerous existing documents from multiple agencies were used for the completion of this HIA. The goal of this HIA is to improve local decision making, explicitly address health impacts of underserved populations and broadly promote population health and well-being.

Broad social determinants of health issues were identified as priorities by the Stapleton Foundation and are central to this comprehensive HIA (completed in approximately four months) such as affordable housing, access to jobs and services and healthy food, a safe environment with convenient pedestrian options that support physical activity. Five questions were developed to best speak to each of these issues that are described below.

¹ National Academy of Sciences, National Research Council (2011) Improving Health in the United States: The role of Health Impact Assessment. The National Academies Press, Washington, D.C.

The Study Area

Figure A



The “study area”, as shown in Figure A, comprises the area of Denver and Aurora bounded by 56th Ave. on the north, Havana St. on the east, Montview Blvd. on the South and Holly St. to the East. These major streets are all approximately 1½ miles from the proposed Central Park Blvd Commuter Rail Station and form the edges of the catchment area in which residents would potentially walk, bike or take transit to the station.

The study area contains portions of three neighborhoods that surround the Stapleton neighborhood and the proposed Central Park Blvd Commuter Rail Station. These neighborhoods are Northeast (NE) Park Hill and North (N) Park Hill in Denver as well as Northwest (NW) Aurora

This report often refers to a currently undeveloped area of Stapleton adjacent to the future Central Park Station as the “TOD Site.” This site is bordered by Smith Road on the North, Central Park Blvd. on the East, 35th Ave, Ulster St, and 36th Ave. on the South and Quebec Square on the West. When the report refers to the “Station Area” it refers to the area within a ½ mile radius of the station and therefore includes Quebec Square, and adjacent industrial, commercial and residential parcels.

This HIA describes the current conditions of the study area and attempts to map and/or describe the physical attributes of the area that relate to health issues. It provides recommendations for the Central Park Blvd Station, the TOD Site and the greater study area.

Community Engagement

Meaningful engagement of diverse constituencies is essential for any redevelopment project and HIA and is more robust when it takes into account the input of a community. Often the community members can identify issues of concern that no set of data or institutional knowledge can. Many of the community concerns are discussed within this HIA and the document will seek to explore these topics using a health lens.

In January 2011, Denver’s Community Planning and Development Department (CPD) and the Stapleton Foundation identified a list of 80+ stakeholder groups and individuals throughout the study area that were invited to help find initial direction for the project. The notes from the January meeting display a series of suggestions that were used by the CPD to help formulate the initial Central Park Station Area Plan.

In June 2011, the CPD convened a meeting and brainstorming session at the Renaissance Denver Hotel. This meeting was open to the public and the community at large. The following text is from the Meeting Summary’s introduction: “After presenting the existing conditions, previous planning efforts, and TOD examples, City staff introduced a draft plan vision statement and plan principles. After fielding general questions about the plan and the plan process, the public provided comments through a feedback and brainstorming activity.”

This summary of the meeting notes reveals the community’s interest in several key topics. Table 1 indicates how often a particular topic was mentioned:

Table 1

TOPIC	TIMES MENTIONED²
Connectivity – Establishing connections between neighborhoods and retail hubs	9
Parking – No surface lots, only smartly designed and well-located garages	7
Safety – In public spaces and for children playing	4
Diversity – In ethnicities and ages	3
Density – Residents asked for higher density, mixed use/residential	4
Housing – There should be a greater mixed use and housing for renters	4
Sustainable – Use the area as a sustainability “lab”	3
Ma-Pa/Local Retail – Attract small-scale retail	2
Community Input – Would like “early and often” community input	2

² This table is a non-scientific attempt to understand how often topics were mentioned in order to get a general sense of the community concerns at the time of the first public meeting.

The direct community input and guidance was shared and collected through the Central Park Station Area Plan Key Stakeholder Committee listed at the beginning of this document. The key stakeholder committee has met three times. These discussions have resulted in the establishment of a Central Park Station Area Plan Vision and Plan Principles.

The Plan Vision is as follows:

Central Park Station will be a sustainable, active, and accessible destination for Stapleton, nearby neighborhoods and the Denver region.

The four Plan Principles are:

Sustainable – The station area will seek innovative ways to better nurture natural, economic, and social systems and resources for today and future generations.

Active – The station area will be a safe, vibrant, urban place that provides stimulating, enjoyable, and convenient activities and amenities for a wide variety of different users.

Accessible – The station area will build upon its regional connections to provide an extremely high level of mobility and multi-modal access for all users in a safe, easy, and convenient manner.

Destination – The station area will serve as a crossroads of the Stapleton neighborhood, connecting people from all segments of the community to the diverse activities found throughout Stapleton and the Denver region.

Stapleton and EnviroHealth consulting participated in the two Key Stakeholder meetings on September 15 and October 20 and presented the proposed draft HIA at the December 20 meeting and incorporated feedback and input from stakeholders (members listed on page 3 and 4). A final draft of the HIA will be distributed to members of the Central Park Blvd. Station Area Plan Key Stakeholder Committee along with the a draft of the Central Park Blvd. Station Area Plan prior to the next Key Stakeholder meeting scheduled for February 9, 2012.

HIA process and Meeting HIA Practice Standards

The HIA process generally consists of five steps: screening, scoping, assessment, recommendations/reporting and monitoring and evaluation. These steps are defined below.

Screening:

The screening process determines whether or not an HIA is necessary and/or feasible. It determines whether there is the political will to complete such work, whether there is sufficient time to study the proposed project or policy and whether or not the health disparities in the area of study are large enough to warrant such a study. In this case, there was sufficient political support, adequate time, and high levels of health disparities among the population within the study area. Therefore the HIA was deemed very appropriate.

Scoping

The scoping process identifies which health impacts should be included in the report. Due to the community engagement, previous data collection within these neighborhoods and stakeholder participation specific to this redevelopment, several broad social determinants of health issues were identified as priorities to focus on for this comprehensive HIA. These included affordable housing, equitable access to jobs and services, healthy food a safe environment and convenient pedestrian options that support physical activity.

The scoping process also determines issues that, for various reasons, will only be briefly or not covered in the report. For example, air pollution is a serious regional issue and would be hard to address within the confines of such a small project, therefore it is not addressed here. Soil and water pollution from the old Stapleton Airport has been mitigated by the City and County of Denver as construction has proceeded on the Stapleton development; the last remaining parcels (including the station area) should be fully cleaned up by the end of the year. While there may be other environmental issues throughout the remainder of the study area, especially in some of the industrial areas north and west of the station area, there was not sufficient time or resources to warrant such an extensive investigation.

Assessment

In the assessment phase various data is gathered and analyzed in order to identify how the population's health may be affected by the built environment. In this process a baseline condition for the community is established (including vulnerable populations and spatial inequalities within the neighborhood).

Data collected for this report came from multiple local, state and national sources. These sources include:

- U.S Census 2009 American Community Survey
- U.S. Census Local Employer-Housing Dynamics (LEHD)
- USDA's Economic Research Service Food Desert Locator
- Colorado Department of Health 2009 BRFSS Data
- Denver Police Department Crime and Accident Data
- Denver Community Planning and Development
- Denver Regional Transportation District (RTD)
- 2010 North Aurora Recreation Center HIA prepared for the Stapleton Foundation
- The Piton Foundation
- 2008 Taking Neighborhood Health to Heart Survey

Recommendations/Reporting

The recommendations stage documents the findings found in the assessment phase and makes recommendations for further action. The report should also document the earlier steps of screening and scoping and discuss scientific evidence for the assessment and recommendations.

Monitoring and Evaluation

After the report is finished and made publicly accessible, continuous monitoring and evaluation of the impact of the HIA is necessary to ensure implementation and determine the plan's impacts on public health.

Purpose Statement

This HIA addresses five primary questions

1. What is the current health status of the population within the study area and how might it be affected (positively and negatively) by the Central Park Blvd Station and development at the TOD Site?
2. What pedestrian and bicycle routes should be enhanced/created in order to better connect local residents and employees to the Central Park Blvd Station and TOD Site?
3. What transit routes would help connect local residents and employees to the station area, employment centers and other local services?
4. What programming and/or housing policy would be necessary to ensure a diverse population of the people, within the neighborhoods in the study area, benefit from the development of the TOD Site
5. What need (if any) is there for a grocery store that sells and promotes healthy and affordable food items near the TOD Site?



Question 1

- **What is the current health status of the population within the study area and how might it be affected by the Central Park Blvd Station and development at the TOD Site?**

Current Health Status

Health status based on “At Risk Demographics”

According to Tri-County Health Department (TCHD) as well as national experts, “several demographic groups face special barriers to getting enough physical activity or are more likely to be injured while being physically active”, including seniors, children, people of low income, people of color, and people with disabilities.” For example, “being poor is associated with a higher risk of chronic disease and obesity, as well as with lower levels of physical activity” (TCHD 2007) (Frank 2003).

When the three neighborhoods surrounding Stapleton are compared with Stapleton, the City of Denver, and Colorado, data consistently illustrates that these three neighborhoods have higher percentages of demographic groups at risk for disease, access to services and healthy food, higher rates of crime, and for getting too little physical activity.

Table 2 shows the racial makeup of all four neighborhoods. While Stapleton is predominantly White, all three of the adjacent neighborhoods have a majority of people of color. NE Park Hill and N Park Hill have very large concentrations of African Americans, while NW Aurora has a heavy concentration of Hispanics. As neighborhoods with a high concentration of people of color all three neighborhoods are at a greater risk of health concerns.

Table 2

Race and Ethnicity by Neighborhood				
Neighborhood	Hispanic	White Non-Hispanic	Black Non-Hispanic	Other/Mixed
North Park Hill	14.0%	43.6%	37.2%	5.3%
Northeast Park Hill	30.3%	13.5%	50.7%	5.4%
Stapleton	13.0%	69.7%	10.0%	7.3%
Northwest Aurora	64.0%	17.0%	14.0%	5.0%
Source: U.S. Census Bureau, 2010 Census				

Age is another factor that plays a part in the community’s overall health. Generally speaking, seniors over the age of 65 and children under the age of 18 are the two groups of most concern. As they age, senior citizens have increasing access issues to needed health care, social and physical activity and healthy food choices. Increasing mobility is key to providing these resources, especially for those who can no longer drive. As Table 3 indicates, N Park Hill has the highest concentrations of seniors at 14%. This number is considerably higher than that of the City of Denver as a whole (at just over 10% of its population)³. NE Park Hill is just about average and the other two neighborhoods are considerably below average. This indicates that access issues for seniors to and from North Park Hill, where seniors are likely aging-in-place is of special concern.

Table 3

At Risk Populations by Neighborhood				
	NW Aurora	N Park Hill	NE Park Hill	Stapleton
Census Tract	Adams 79	Denver 41.04	Denver 41.02	Denver 41.05
Total Population	6,487	4,483	4,674	10,225
% Children under 18	26.4%	26.9%	28.7%	24.0%
% Children in poverty	42.5%	23.3%	50.3%	5.6%
% Seniors (65 and over)	4.6%	14.0%	9.2%	2.9%
% Adults w/o H.S. Diploma*	52.2%	20.1%	23.0%	15.9%
Source: U.S. Census Bureau, 2005-2009 American Community Survey Estimates				
* Data for Stapleton for this indicator is likely skewed due to the presence of a prison within the census tract for which data was gathered				

Children are a special concern because of the special nutritional and exercise needs of growing bodies. Special attention should also be paid to improving children’s early health habits as those tend to become lifelong habits. The study area falls within the “Children’s Corridor”,⁴ a 14-mile stretch of neighborhoods in Northeast Denver that the Piton Foundation has identified as facing high risks of poverty, underperforming schools, undereducated parents, poor nutrition and unsafe neighborhoods. Figure B depicts the corridor. According to the Piton Foundation nearly 65% of the children in the corridor have been born by teen mothers or adult mothers with low education levels and receive free and reduced lunch from the public school system.⁵

³ U.S. Census Bureau, 2005-2009 American Community Survey

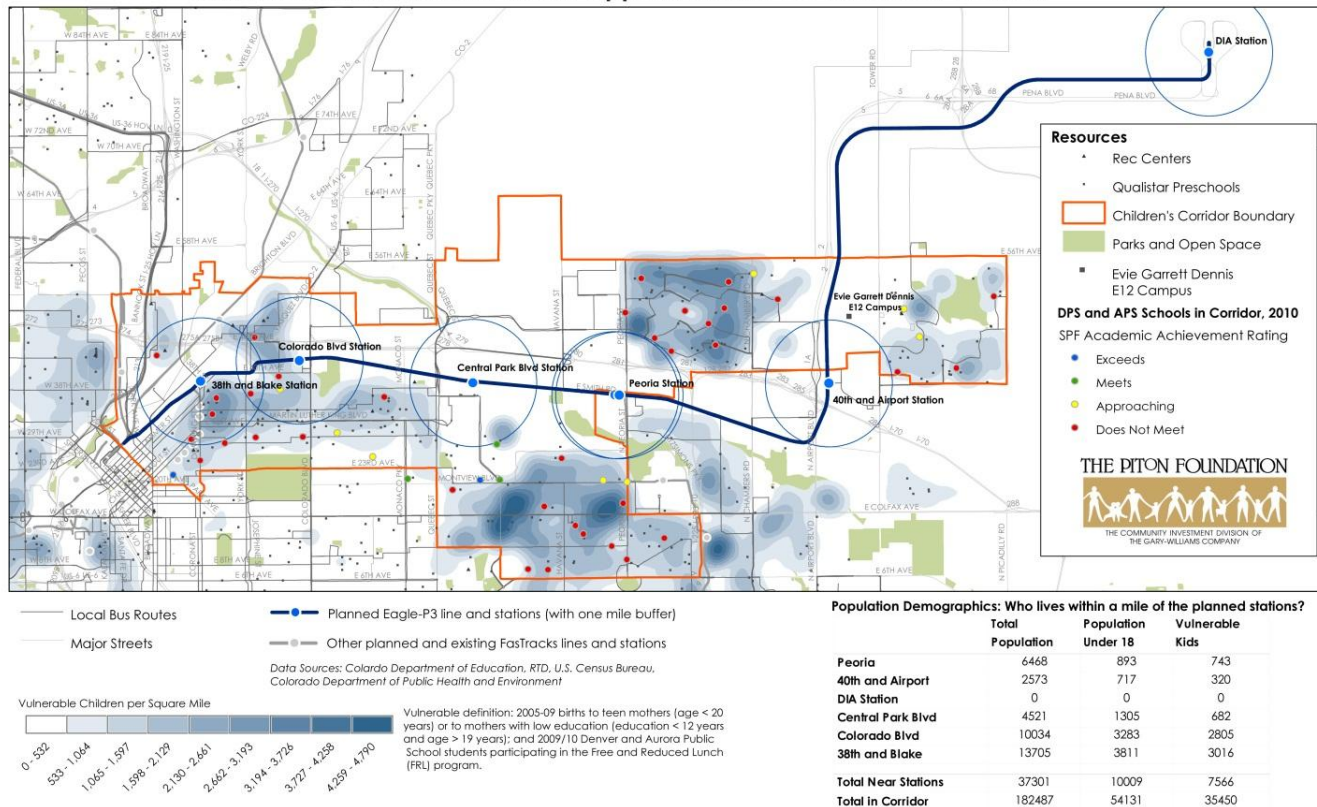
⁴ <http://www.childrenscorridor.org/>

⁵ <http://www.denverchildrenscorridor.org/why>. Data sources for this definition: Colorado Dept. of Public Health & Environment, Denver Public Schools, Aurora Public Schools.

In terms of the percentage of children under 18, all four neighborhoods are very similar. The neighborhood with the highest percentage (NE Park Hill) and the lowest (Stapleton) are only separated by about five percentage points. The more important issue in terms of childhood health, however, is poverty status. With the exception of Stapleton, poverty among children is especially pronounced in the study area. Since the combination of youth and poverty is a high indicator of poor current and future health outcomes, it is important to note that just over half of all children in NE Park Hill and 42% of children in NW Aurora live in poverty. These numbers are markedly higher than the city of Denver overall where approximately 26% of children live in poverty. N Park Hill is somewhat above average at around 23%, but nowhere near the 5.6% in Stapleton or the 15.4% of children in poverty statewide.

Figure B. The Children’s Corridor

Education Resources and Transit Opportunities in the Children's Corridor



SOURCE: Piton Foundation (2011)

Public schools within the Study area include:

Smith Elementary School, Smiley Middle School, Westerly Creek, Bill Roberts, Denver School of Science and Technology, Denver School of the Arts, and Odyssey Charter School.

In general, low income populations are especially at risk for poor health. Poverty often leads to poor health, as there is often a lack of funds for healthy food choices, proper health care and recreational activities that provide physical activity (i.e. joining a health club or soccer league). Neighborhoods with higher than average levels of poverty also tend to be the ones with the least recreational infrastructure, the most unsafe streets for walking (physically and due to crime) and the poorest access to health care services and healthy food options.

Table 4 shows the serious disparity of median household incomes across the four neighborhoods. For comparison sake, the state of Colorado’s median income for the same period was \$56,222; Denver’s stood at \$45,438. (US Census) In 2007, 15% of NW Aurora residents and 35% of NE Park Hill residents who responded to the Taking Neighborhood Health to Heart survey (discussed later in this section) had incomes less than \$15,000. Additionally, 41% and 46% of respondents in these same respective neighborhoods reported that they had run out of money to buy food at some point in the last 12 months.

Table 4

Median household income by Neighborhood				
Neighborhood	NE Park Hill	NW Aurora	N Park Hill	Stapleton
Median income	\$28,125	\$31,983	\$39,639	\$115,230

Source: U.S. Census Bureau, 2005-2009 American Community Survey

Low education levels are highly indicative of high poverty levels, and another cause for serious health concerns. Table 3 shows that over 52% of NW Aurora residents do not have a high school diploma. This lack of education tends to lead to low paying jobs, high unemployment, poor housing conditions and a lack of consistent health care. Children of these parents are highly likely to get a poor education themselves, often dropping out of high school themselves due to difficulties in school, competing family priorities, crime, drugs or teen pregnancies. Ensuring educational programs for adults, quality public education for children and providing services to keep kids in school is imperative in order to break this cycle. Similar programs might be necessary in both NE & N Park Hill where over 20% of residents do not have high school diplomas.

Persons with disabilities constitute another group that is especially at risk for poor health. According to the Denver Regional Council of Governments (DRCOG), “People with disabilities may have fewer options for physical activity such as access to recreational facilities because of barriers in the built environment. They are also more at risk of a collision in difficult traffic situations (DRCOG 2007).” Those with disabilities are also at risk of having very low incomes as their ability to work full time is often limited. In terms of disability, 25% of NE Park Hill residents and 16% of NW Aurora residents reported that handicaps or chronic disease kept them from working full time and or limited their functionality at home. When compared to the 12% of N Park Hill residents and only 3% of Stapleton residents who responded similarly, it becomes apparent that there is a great need for improved access in these neighborhoods.⁶

Based on an analysis of “at risk” demographics, we can see that there are likely vast health disparities between the four neighborhoods studied. With a high despaired population, low-income households and disabled persons, NE Park Hill and NW Aurora are likely to have the worst health outcomes of all the neighborhoods. N Park Hill is on a somewhat better foothold, but still has average to high numbers of the previous groups and the largest number of senior citizens of any neighborhood. Stapleton is by far the healthiest neighborhood of the study area based on its demographics.

⁶ Taking Neighborhood Health to Heart

Measured Health Status

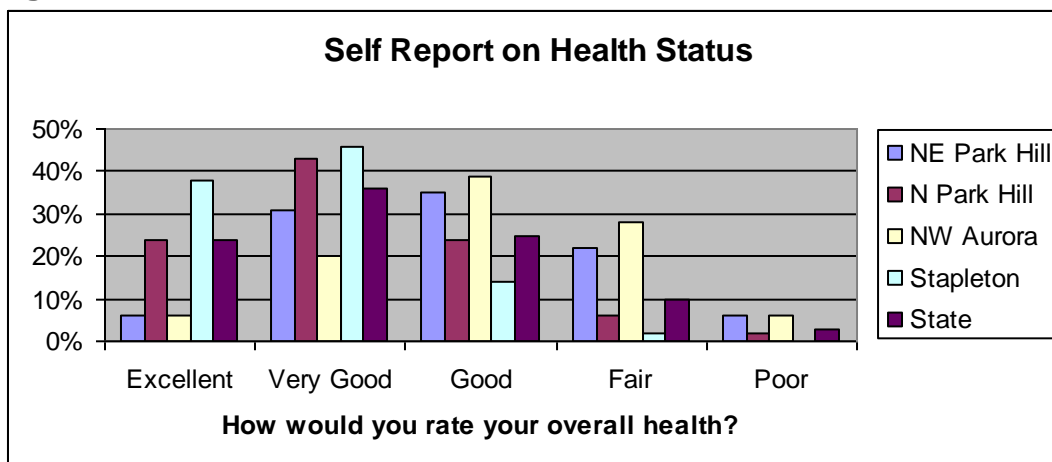
The 2006-2008 Taking Neighborhood Health to Heart (TNHHTH) community based participatory research study was funded by a grant from the National Heart, Lung and Blood Institute and conducted by a partnership between the TNHHTH resident coalition, the University of Colorado

Denver, Stapleton Foundation and 2040 Partners for Health. The study asked respondents from five neighborhoods in Denver and Aurora, including all four of the neighborhoods in this study, about their health. Survey results are reported below.

Self Report of Health Status

Self-reporting of a person’s health status is a very powerful assessment tool and is highly valid in predicting a person’s quality of health. It hints at an overall assessment of all an individual’s physical and mental health conditions rather than one or two specific health indicators⁷. The TNHHTH survey asked respondents to rate their health status on a scale from “poor” to “excellent.” Figure C shows the frequency of answers given by residents of each neighborhood. Both NW Aurora and NE Park Hill had the lowest percentage respondents who stated that their health was “excellent” and the highest percentage of respondents who stated their health was “poor.” Both neighborhoods surveyed significantly worse than the state as a whole. Park Hill’s responses indicate a similar level of both Excellent and Poor health as the state. Stapleton, however, reported a much higher level of reported health than the rest of the state in terms of “excellent” health and a much lower level in terms of “poor” health, indicating a high standard of public health in that neighborhood.

Figure C



⁷ Ellen L. Idler; Yael Benyamini, Self-Rated Health and Mortality: A Review of Twenty-Seven Community Studies, *Journal of Health and Social Behavior*, Vol. 38, No. 1. (Mar., 1997), pp. 21-37.



Access to health care

Among the four neighborhoods access to health care is of greatest concern in NW Aurora. According to the TNHHTH survey, only 41% of residents there had some type of health insurance; 46% of respondents stated that they had put off medical treatment due to cost (TNHHTH 2007). Statewide, at the time of the survey, 17% of adults did not have health insurance and only 12.9% had delayed medical treatment (CDC 2007). Residents of NE Park Hill are not much better off; while a much lower percentage of people reported not having health insurance (24%) a nearly similar number (41%) reported that they had delayed medical treatment. The other two neighborhoods fell below statewide averages in terms of health care coverage at 10% lacking health insurance in N Park Hill and only 3% reporting the same in Stapleton. Only Stapleton fell below the state average for delaying medical treatment (12%); N Park hill residents reported a 21% rate.

Just getting to the doctor can be difficult for many residents in the study area. Eighteen percent of respondents in NW Aurora and 15% in NE Park Hill indicated that they took a bus to get to their doctor appointments while only 6% of N Park Hill residents and less than 1% of Stapleton residents indicated using public transit to get there. Given the high rate of seniors in N Park Hill, however, this number may increase in the future.

Incidences of Chronic Health Problems

Table 5 shows incidences of certain chronic health problems in the four neighborhoods as reported by respondents in the TNHHTH survey. For comparison, BRFSS data for the State of Colorado (for the same year) is included.

Table 5

Self Report of Chronic Health Problems					
Taking Neighborhood Health to Heart Survey					
Indicator	NE Park Hill	N Park Hill	NW Aurora	Stapleton	State
Asthma*	10%	10%	12%	4%	8%
Diabetes*	12%	4%	9%	2%	5%
High Blood Pressure*	35%	23%	24%	11%	22%
High Cholesterol*	22%	6%	28%	2%	10%
Obesity (BMI over 30)	37%	19%	33%	9%	20%
* Respondent indicated that a health care professional informed them they have this health problem					

Sources: Neighborhood Data: TNHHTH Survey 2007
State Data except Asthma BRFSS Survey 2007 (except cholesterol - 2009)
State asthma data: U.C. Center for Disease Control
<http://www.cdc.gov/VitalSigns/Asthma/index.html#StateInfo>



In all cases local residents from NE Park Hill and NW Aurora reported higher rates of all health indicators surveyed than state averages. N Park Hill is fairly consistent with state averages for all indicators. Stapleton, however, scored considerably below average on all indicators, once again indicating the high levels of good health experienced in the neighborhood.

Physical Activity

Physical activity is vitally important for a healthy lifestyle. The U.S. Center for Disease Control and Prevention (CDC) recommends that citizens engage in moderate intensity exercise of at least 30 minutes (e.g., walking, vacuuming) five or more days per week, or 20 minutes or more of vigorous physical activity on three or more days per week. According to the TNHTH survey, only 33% of NW Aurora residents surveyed indicated that they met either of these criteria. This figure rose to 41% in NE Park Hill and then jumped to 65% and 66% in N Park Hill and Stapleton respectively. In 2009 the statewide average was 57%. This indicates that while N Park Hill and Stapleton are doing better than average, much work needs to be done to encourage residents of the other two neighborhoods to engage in more physical activity.

One of the easiest ways to fulfill this recommendation is by biking and walking to and from transit and for recreational purposes. Overall, the TNHTH survey found that, 62% of respondents in the study area reported that they walked to get from place to place at least once in the last 7 days; 13% reported that they used a bike to do the same. The rates of pedestrian travel were highest in NW Aurora at 66% (likely indicating there are a great number of people in this neighborhood without access to a car) and lowest in NE Park Hill at around 55%. Of these pedestrian trips 71% were short trips of 10-30 minutes in duration.⁸ The rates of bicycle usage were highest in Stapleton at 15% and lowest in NE Park Hill at around 9%. Of these bike trips 56% were short trips of 10-30 minutes in duration. Additionally the survey indicated that 25% of children in NE Park Hill do not ride a bike which could be reflective of the limited income of the residents to purchase a bike in that area and safety of streets and crime. In comparison only 2% of children in Stapleton and 7-8% of children in the other two neighborhoods do not ride a bike⁹.

Other Health Related Factors

Some other factors within the neighborhood that can be attributed to increased or decreased states of health are Crime, Social Cohesion, access to parks and recreation facilities

⁸ "Taking Neighborhood Health to Heart" Stapleton Foundation

⁹ "Taking Neighborhood Health to Heart" Stapleton Foundation

Crime

Crime in a neighborhood causes fear and stress, which can lead to poor mental health as well. The TNHHTH survey indicates that the perception of crime was highest in NE Park Hill and NW Aurora where more than half the residents expressed that there were high crime levels in the area. A quarter or more of these same residents stated that the crime made it unsafe to go outside for a walk during the day. In a study in Greenwich, London, the participants who reported feeling unsafe to go out in the day were 64% more likely to be in the lowest quartile of mental health.¹⁰ While our study area is not in England, it can be inferred that those residents who live in fear and confinement within our study area are not getting the physical, mental and social stimulation necessary for good health.

This trend is especially disconcerting for the large number of children within the study area. Conversations with staff and parents at area schools indicated that they are fearful to allow the children to walk to nearby libraries and recreational facilities. For example, a Smith Elementary school staff member stated that between the hours of 3-5 students are too afraid to walk to the library/recreation center that is less than 2 blocks away due to crime as well as traffic and the lack of sidewalks. Since the health issues, exercise habits and mental trauma that children incur today will become lifelong issues, reducing crime within the study area is key to improving their health and welfare in the long run.

Crime reports received from the Denver and Aurora Police Departments (PD) generally confirmed these results. Maps showing the number of crimes reported per address, per year in 2008, 2009 and 2010, from the Denver PD show a high number of crimes reported along Quebec St. and a general increase in the density of crimes in NE Park Hill. The data we received from the police department does not tell us what kinds of crimes were committed at each address, but in 2010 16% of all crimes committed were crimes against persons. Most notably there were 86 aggravated assaults and 91 simple assaults within the Denver portion of the study area. That number of assaults in one year would certainly cause residents to perceive the neighborhood as “unsafe.” The largest single categories of crime were “larceny” (20.4%) and “theft from motor vehicle” (16.3%). Based on conversations with Commander Rhonda Jones of the Denver PD a large percentage of the thefts from motor vehicles happened at the existing Stapleton Park-n-Ride. In all three years, the park-n-ride had more crimes reported than any other address (53 in 2010). This suggests that there may not be enough surveillance and security within the Park-n-Ride; a continued high-rate of thefts may dissuade people from using the facility.

Data from the Aurora PD and conversations with their GIS analyst indicated that Northwest Aurora’s crime rates are also higher than normal. Crime maps show a relatively even distribution of crime throughout the neighborhood, with a strong cluster of crimes between Dahlia and Emporia streets from 22nd Ave to 25th Ave. The most notable trend in the data is an unusually high number of armed street robberies. In 2010 there were 15 reported events. If distributed evenly, that would mean nearly one event for every two blocks in the neighborhood.

¹⁰ Guite HF, Clark C, Ackrill G. 2006. The impact of the physical and urban environment on mental well-being. Public Health 120:1117-1126

Social Cohesion

Much research has also shown that the personal connections we have with our neighbors (or lack thereof) are also indicative of physical and mental health. Involvement in local community organizations also tends to improve not only our personal health, but may also work to improve the health outcomes for the community as a whole. The TNHTH Survey asked residents about whether their neighbors could be trusted, whether their neighbors were willing to help each other out, and whether residents felt the neighborhood was “tight-knit.” It also asked whether the individual surveyed belonged to a community organization, a religious organization and/or a recreational club. Results from the survey indicated that social cohesion was lowest in NW Aurora. With the exception of membership in a religious organization the neighborhood scored lowest in all categories; a remarkable 41% percent of people felt they couldn’t trust their neighbors. On average, NE Park Hill showed a 40% increase over NW Aurora in all categories indicating a much higher level of community support. With the exception of religious involvement, which drops significantly in Stapleton, the responses given in the other two neighborhoods show a level of social cohesion that is at least twice as high as those given by residents of NW Aurora if not more. For example, 90% of Stapleton residents felt they could trust their neighbors.

Access to Parks and Recreation

Studies have shown that access to parks and recreation leads to positive general health and wellbeing by decreasing stress and depression, increasing mental functioning and encouraging physical activity, which can help combat obesity and chronic disease (Human Impact Partners).¹¹ Denver city planning staff noted that there are more than 380 acres of parks and open space within the Stapleton neighborhood. Elements of this park system include the extensive Sand and Westerly Creek Greenways (202 acres), Central Park, (79 acres) the Sand Creek Prairie Dog Preserve (25 acres) and numerous smaller neighborhood parks. Approximately 45 of those acres are within the one-half mile radius of the station area (City of Denver 2010). Future residents of the Central Park Station area will no doubt have significant access to parks and recreation amenities.

For those outside Stapleton and the station area things are considerably different. In NE Park Hill there are two public recreation centers and two small parks (approx. 10 acres each) associated with these centers within the study area. According to the National Recreation and Parks Association (NRPA) guidelines, 10 acres of open space per 1000 residents is the benchmark for adequate open space (San Francisco Dept. of Public Health, 2006). With only 20 acres for over 4000 residents, the neighborhood is significantly deficient by these standards. The portion of NW Aurora within the study area contains a tiny public recreation center and a small 3 acre park; an additional public park (approx. 8 acres) is located just across busy Montview Blvd (outside the study area). In N Park Hill, there is not a single public park. Using the NRPA’s standards, these neighborhoods are also seriously deficient.

¹¹ www.humanimpact.org/evidencebase/category/parks_and_open_spaces

Measuring access to parks and recreation amenities is often difficult as it is not necessarily just a function of the presence of such spaces and facilities. For those with a car, access to distant facilities and programs is not nearly as difficult as those who either cannot drive (seniors, persons with disabilities and children) or cannot afford to own an automobile. With large numbers of children in NE Park Hill and NE Aurora, and large numbers of seniors in N Park Hill, these deficiencies are certainly worth noting. This is especially apparent when looking at N Park Hill, the area of this study with the least access to parks. In order for a resident of this neighborhood, without access to a car, to get to a public park they would either need to walk a great distance and cross a major traffic thoroughfare (i.e. Quebec or MLK Blvd) or take a bus. It should be noted that there are no bus connections from this neighborhood to either of the two recreation centers in NE Park Hill or the Stapleton Recreation Center.

One final note is that while NW Aurora is currently lacking adequate park space, they are in very close proximity to a huge park network within the Stapleton development. Unfortunately, however, there are no public connections from this corner of NW Aurora to Stapleton and whatever public easements may exist are fenced off on the Stapleton side. Given the lack of connectivity, residents can't easily get to the open space amenities in Stapleton without driving. Removing this barrier would greatly increase access to park and recreation options for this neighborhood.

Impact Assessment

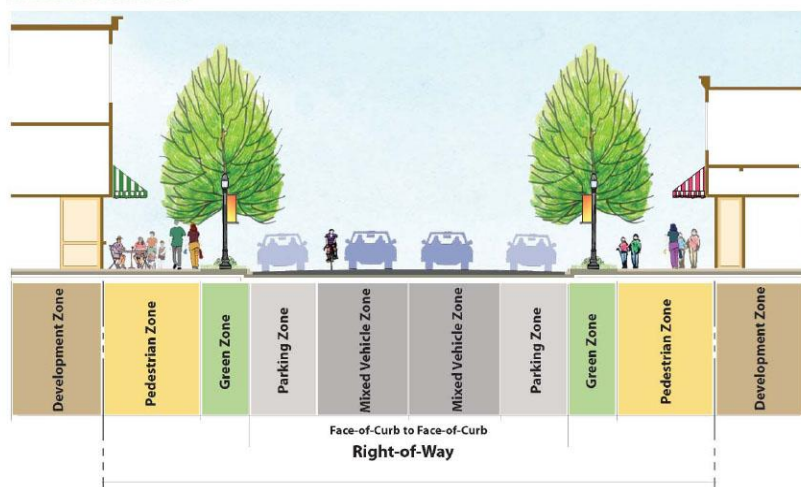
(Impact of Central Park Station and development of the TOD Site)

The opening of the Central Park Station will greatly impact Stapleton and the surrounding communities. In the short term, the station will likely bring more traffic to the area as people access a primary transit route to both downtown and DIA. While many commuters already access the park-n-ride in the station area, based on the experiences elsewhere in the RTD rail system, demand will only increase once the station is in place. Increased traffic will impact the neighborhood by bringing more noise and air pollution, the potential for more traffic collisions and the stress of traffic congestion.

In the long term, however, the station has the potential to decrease private motor vehicle trips and the number of vehicle miles traveled by residents of the area. First, given the high concentration of transit connections at the station there is the opportunity for greater ridership. Second, if the station area and surrounding community is developed in a pedestrian and bicycle friendly manner, there is the potential for more walking and biking trips. Regardless of travel mode, integrating a wide variety of retail services adjacent to the station would promote combined trips and ensure easy access to goods and services needed by local residents on a day-to-day basis. Image D demonstrates a vibrant multi-modal street design incorporating such retail amenities.

Figure D

Main Streets



Source: City of Charlotte's Urban Street Design Guidelines

Further restriction of automobile use, via traffic calming measures and restrictive parking could encourage fewer car trips to and from the development in favor of healthy, active transit options. Properly developed, the station area would provide affordable, safe and accessible transportation options for people of all incomes and abilities.

The Central Park Station and the associated TOD Site also have the potential to be a major community destination within the Stapleton redevelopment and the northeast metro area. As a place where many people will likely meet and congregate, the station area can provide a great place for arts, entertainment, social opportunities, civic engagement and business, personal or organizational meetings. Creating an environment within the TOD Site that is conducive to relationship building and that allows neighbors to get to know one another should therefore be a high priority. Design features that create a sense of community, and encourage people to walk and visit with neighbors also help to reduce depression, isolation and crime, and encourages physical activity.

The following recommendations for the station and TOD Site stem from a thorough review of the Healthy Development Management Tool (HDMT) Development Checklist put out by the San Francisco Department of Public Health. The Development Checklist is geared toward creating large-scale residential or mixed-use developments that are safe and healthy places to live and work. As such it provides a great baseline for creating a healthy community around the Central Park Station.

Recommendations

Recommendation 1A: Expedite construction of the structured parking garage and housing/commercial/retail development near the Central Park Blvd Station.

A vast sea of surface parking lots as proposed by RTD in the station’s Phase 1 design will discourage walking and biking to the station from the local community and encourage driving. Having the Park-n-Ride structure in place would provide a landmark to guide people to the station and provide impetus for constructing the housing, commercial and retail development sooner rather than later. RTD should work jointly with the developer to ensure that the parking structure is well integrated into the community.

Recommendation 1B: Create interior streets that are pedestrian friendly.

Directing traffic around the TOD Site and reserving interior streets for a quieter, safer pedestrian experience would provide the stimulus for more people to walk as part of their daily routine. Heavy-grade truck traffic should be routed away from Smith Road at the station area in order to increase pedestrian safety and reduce air and noise pollution. The city has recently connected 40th Avenue to Central Park Blvd north of the station; truck traffic should be directed away from the station and its residential development via this new street. Interior streets should be designed at a pedestrian scale with at least 8-foot wide sidewalks and traffic calming measures to keep traffic speeds at or below 25 miles per hour. Streets should be lined with trees for shade, provide adequate night lighting and incorporate directional and informational signage, seating and public art.

Recommendation 1C: Provide adequate bike infrastructure within the TOD Site.

In order to promote bicycling as an alternative to driving, the station needs abundant bicycle parking facilities including lockers near the station. RTD currently has a policy about the proximity of bike lockers to the station for security reasons, but lockers could be integrated into plaza space or other buildings and or parking lots nearby. Other bike infrastructure should include clearly marked bicycle lanes or sharrows leading up to the station and way finding devices (a network of directional signs) to direct bicyclists to bike facilities.

Recommendation 1D: Provide bike sharing programs/ facilities at the station and throughout the greater neighborhood.

Creating a bike sharing program based at the Central Park Blvd station and extending into the surrounding neighborhoods would encourage local residents and transit users to access destinations that are just out of range of a comfortable walking trip via bicycle. Potential locations for other bike sharing facilities may include the E. 29th Avenue Town Center, Holly Shopping Center, Oneida Shopping Center, Martin Luther King Library, Moorhead Park, Sam Gary Library, Central Park Recreation Center, Hiawatha Davis Recreation Center, Havana St. town center, and near the hotels on Quebec St, Northfield.

Recommendation 1E: Provide way-finding signage at the station (and create small maps) directing users to major destinations in the area and preferred walking/biking routes.

Signs directing bicyclists and pedestrians to local amenities including the E 29th Ave. Town Center, the Sam Gary Library, Central Park Recreation Center, Quebec Square and local hotels, would increase way-finding for residents and visitors to the station area. Displaying estimated walking times, distances and preferred routes would help encourage active transit to these destinations. Maps can be distributed to residents in the targeted communities. The maps should include distances walked through steps/pedometers or distance in miles traveled by bikes.

Recommendation 1F: Incorporate a public plaza into the TOD Site.

Providing public space for gathering and recreating can help bring more social cohesion into the development. This space could also be used for small festivals, performances, outdoor markets or other neighborhood events. The space should be easily seen from the station or otherwise marked with appropriate signage to direct transit users to the plaza. Additionally, a kiosk should be located in the plaza to inform residents and visitors of upcoming programming and community information.

Recommendation 1G: Assure access to daily goods and service needs within the Station Area.

Currently the Station Area has a Walk-Score of 58¹² indicating that the area is “Somewhat walkable” and that there are a fair number of services within walking distance of the station. It should be noted that most of these are in Quebec Square, which despite its pedestrian amenities, still tends to discourage walking, due to its large parking lots and the significant distances between stores. Inclusion of additional basic services such as banks, salons, bike repair shops, eating establishments, retail food markets etc. within the development, would help commuters fulfill daily needs at the station, rather than drive elsewhere. This will be especially beneficial for those local residents who do not have access to a car as they will be able to easily access these amenities via public transit. Additional service needs that should be considered for local low-income residents in the area are affordable childcare centers, health clinics, and fitness centers. The Stapleton Foundation’s be well Healthy Living Centers that offer access to free physical activity and nutrition training, enrollment assistance for various health and food access programs, health screenings and general healthy living resources would also be a viable resource for the Station Area.

Recommendation 1H: Provide public restrooms at the commuter rail station and/or park-n-ride.

Providing clearly marked public restrooms at the transit station would increase the comfort of the transit and pedestrian experience for all users of the station and the TOD site.

Recommendation 1I: Incorporate safe, easy and comfortable connections between the commuter rail station and bus transfer center.

¹² <http://www.walkscore.com/>

Steps should be taken to ensure the construction of safe pedestrian crossings of Smith Road to access the bus transfer center. These crossings should be signalized and have pedestrian countdowns for ease and safety of use. Additionally signage should be installed to direct people to the various transit services on site as well as provide travel times of the next trains and/or buses. Adequate shelter, seating and lighting should be provided at both the bus and rail facilities for user comfort. Given the number of crimes reported at the current park-n-ride facility, improved security is also needed at the bus waiting area and parking facility; this may be in the form of emergency call boxes, active security personnel and or security cameras. Doing so will create a comfortable, stress free transit experience which will encourage ridership and decrease the number of automobile trips.

Recommendation 1J: Manage parking to encourage active transit use.

The final design for the TOD site should take steps to limit the number of parking spaces and screen them from view. Given the transit oriented nature of the development, parking ratios for all new buildings should be considerably less than common standards elsewhere in the city. Parking lots should always be located in or behind buildings rather than on the street. All on-street parking should be metered and off street parking should not be free. Parking footprints could also be reduced by incorporating shared parking for occasional users of the development rather than separate lots at each building, and unbundled parking (charging for parking separate from residential and commercial property/rental costs) for those who live and work in the TOD.

Recommendation 1K: Provide community meeting space in an easily accessible location that can foster neighborhood groups and be a forum for public meetings.

Given the high level of accessibility of the station area via all modes of transit, locating a public meeting space within the TOD Site would allow a broad demographic to attend community meetings, and other group functions. The space could also be rented out for private business meetings and other private events by members of the community.

Recommendation 1L: Promote crime prevention through environmental design (CPTED) within the TOD Site.

The final design for the station area should ensure that there are adequate eyes on the streets and plazas by providing porches and balconies on the residential units that overlook the street. It should also make sure that entrances and exits to buildings are highly visible, and that private spaces are clearly defined. Doing so will help create a safer environment for those who live, work and visit the area.

Recommendation 1M: Incorporate a communications campaign, cross cultural programming and activities.

The campaign should inform residents of all backgrounds the health and economic benefits of TOD, including increased physical activity, lower costs of living, and reduced chronic disease and illness.



Recommendation 1N: Encourage businesses and services at the TOD Site (especially restaurants) that are affordable and promote a healthy lifestyle.

As new businesses are being sought for the TOD by the developers of the site, care should be taken to promote initial commercial opportunities to businesses and services that are affordable and promote a healthy lifestyle. These decisions should be based upon the Centers for Disease Control and Preventions recommendations and/or PolicyLinks for Healthy Communities (a national organization that focuses on health equity for all people). The developer should work with the City and key stakeholder groups to develop specific guidelines so that businesses might receive incentives for locating at the TOD site. This is similar to efforts previously implemented at Stapleton by the Stapleton Workforce Committee.

Recommendation 1P: Work with local agencies and institutions (i.e. Stapleton Art, Community College of Denver, Denver School of the Arts, etc.), to hire local artists to create culturally appropriate, functional art and/or architectural opportunities for the display of artwork.

Consider benches and other public realm elements as an expression of art. Other areas for possible opportunities for art are the following:

- a) artistically designed, energy efficient, pedestrian-scale lighting;
- b) kiosk or community bulletin board to publicize arts/community events;
- c) artistically designed parks and playgrounds
- d) mini public spaces or niches for art displays or performances
- e) bike racks

Recommendation 1Q: Partner with or create a community advisory committee that helps to provide directions for businesses, programs, services and activities at the TOD Site

Recommendation 1R: Monitor and evaluate on an ongoing basis who is using the TOD Site (i.e. moving in, utilizing services, etc.) to ensure services and access for all.

Recommendation 1S: Work with the City and County of Denver and RTD to establish an emergency management plan for the station area.

Question 2

- **What pedestrian and bicycle routes should be enhanced/created in order to better connect local residents and employees to the station area.**

Studies have shown that as many as “45% of workers in transit zones walk, bike, or take transit to work, compared to just 14% of workers in regions without transit.”¹³ As a major transportation hub for the local neighborhood and the region, it is highly likely that the station area will be an area of increased walking and biking activity. The master plan for the Stapleton Redevelopment has done an excellent job of creating a walkable and bikeable neighborhood with adequate sidewalks, off street bike and pedestrian paths, pedestrian amenities and bike lanes. Nevertheless the development of the TOD Site offers the opportunities for enhancement of the pedestrian and cycling network. Connections to the commuter rail station from the neighborhoods adjacent to Stapleton are often tenuous, but are critically important because these neighborhoods house a population that is more transit dependant than the residents of Stapleton. The following section addresses some of the current physical conditions and then gives recommendations for addressing these conditions.

Existing Physical Conditions:

Pedestrian Environment

It is widely accepted that people are willing to walk approximately a half mile or so to reach a transit stop. This is generally considered to be a 10-15 minute walk. As it stands today, very few people live within a half-mile radius of the proposed commuter station. The housing that does exist within the radius consists primarily of single family homes. While a smattering of duplexes and multifamily townhome projects can be found in the area as well, it is unlikely that this moderate-low density will attract much pedestrian traffic to the station. There are a significant number of jobs within the ½ mile radius including two hotels (The Red Lion and Courtyard by Marriott north), some small industrial facilities, an FBI office and a large number of retail jobs. Additionally two other large hotels, the Best Western and the Renaissance (with conference center) are just outside the radius on the west side of Quebec. These may be a somewhat larger source of pedestrian trips to and from the station than existing residents. In any case, the biggest source of pedestrian trips may emanate from the transit oriented development proposed for the site.

¹³ Heffernan K. Preserving and promoting diverse transit-oriented neighborhoods. Center for Transit Oriented Development. 2006. Available at: http://www.cnt.org/repository/diverseTOD_FullReport.pdf. Accessed July 17, 2009.

While walking the existing streets within a 1/2 mile radius of the future station, several issues arose. The first is the lack of pedestrian connections to Quebec Square north of 36th avenue. Given the high number of low-paying retail jobs in Quebec Square and the transit dependence of many low-wage employees there should be a focus on connecting the transit station directly to this employment center. Adding sidewalks along Smith Road and connecting them to the pedestrian infrastructure within will provide much improved access to Quebec Square. An additional connection should also be made immediately south of the Walmart for improved access to and from residences within the TOD Site.

Second, there is a lack of pedestrian connections to the mixed industrial area north of the proposed station. While the current industrial businesses may not generate a great deal of pedestrian trips, it is highly likely that residents at the two hotels north of the station would like to walk to the station area for shopping, dining and transportation. Furthermore the current industrial mix will likely change and redevelop once the station is in place; redevelopment will likely mean more pedestrians.

Third, there is a potential disconnect between the residential neighborhoods south of MLK Blvd due to the width of the street and high traffic volumes. It is highly likely that people would be discouraged from walking to the station area's amenities if they have to cross a busy and potentially dangerous street. A recent report on Colorado Public Radio confirmed that there is a perceived danger by local residents regarding crossing Stapleton's primary arteries namely Central Park and MLK Boulevards¹⁴; this should be addressed. Multiple pedestrian crossings of MLK should be created between the Roslyn/Syracuse paired couplet and Central Park Blvd. Additionally traffic speeds should be calmed within this area. Further studies would likely be needed to address this, but curbside bump outs, speed tables or material changes at pedestrian crosswalks, pedestrian signaling and or on street parking could all help tame traffic speeds on this major thoroughfare.

Denver Public School's brand new Swigert-McAulliffe International K-8 School is located within walking distance of the station. While there are probably very few students who would be taking transit and walking in from the station, faculty and staff might use the station to get to work. Additionally, children residing within the proposed station development are likely to attend the school. These children should be able to safely walk to school and therefore safe pedestrian crossings of 35th Avenue should be integrated into the station area plan. Currently there are fully marked safe crosswalks for students on 35th at Syracuse Street and at 35th and Central Park Blvd but these intersections are nearly a half mile apart. Given the large number of children and families living in Stapleton, and the potential for children to walk to the new school so adding marked crosswalks somewhere in between these two streets would be recommended. The best option may be at Ulster St. where there is a significantly large median and no left turning cars.

¹⁴ "Dangerous Streets Ring the Suburbs, Zachary Barr, Colorado Matters, Aired on Colorado Public Radio Oct 11, 2011

Finally, it was brought to our attention that there is a safety concern at 36th and Willow just east of the station area. Xanthia Street makes a 90° curve becoming 36th street. Traffic traveling south on Xanthia has a tendency to speed around the corner and potentially not see the intersection and any pedestrians that might be in the intersection. Once the station opens, this street will likely become even busier as it is one of the easiest ways to reach north-bound Central Park Blvd from the station. This will only increase the potential for accidents at this intersection and therefore should be addressed.

Bicycle Environment

The TNHHTH survey noted that nearly 15% of Stapleton residents ride their bikes to local destinations. Since walking to the station is going to be too far for most transit users it is highly likely that riding a bicycle to the station will be a popular option. Within the Stapleton Redevelopment there are North/South bicycle lanes on Central Park Blvd and the paired one-way couplet of Roslyn and Syracuse. There are East/West bicycle lanes on 35th and 29th Avenues. Additionally there are off street bicycle routes through Central Park and along the Sand and Westerly Creeks. Outside of Stapleton, the only designated bike lanes are on MLK and Montview Boulevards. A handful of local streets have been designated as bike routes by the City and County of Denver, (i.e. Smith Road, Holly St. and both 29th and 35th Avenues west of Stapleton) but they are poorly marked and generally unknown to motorists in the area. One of these routes, Smith Road, with its high volume of semi truck traffic, lack of curb and gutter, deteriorating shoulders and an unposted speed limit (this also should be addressed), is a potentially dangerous bike ride.

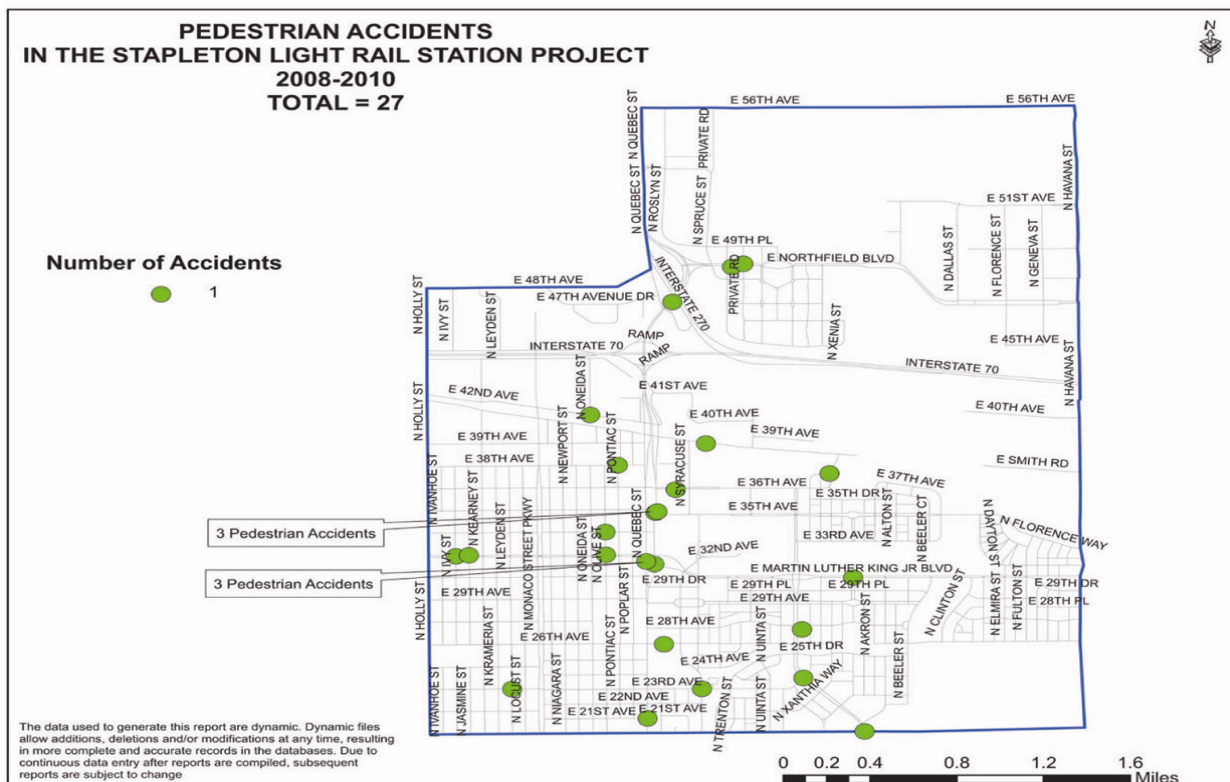
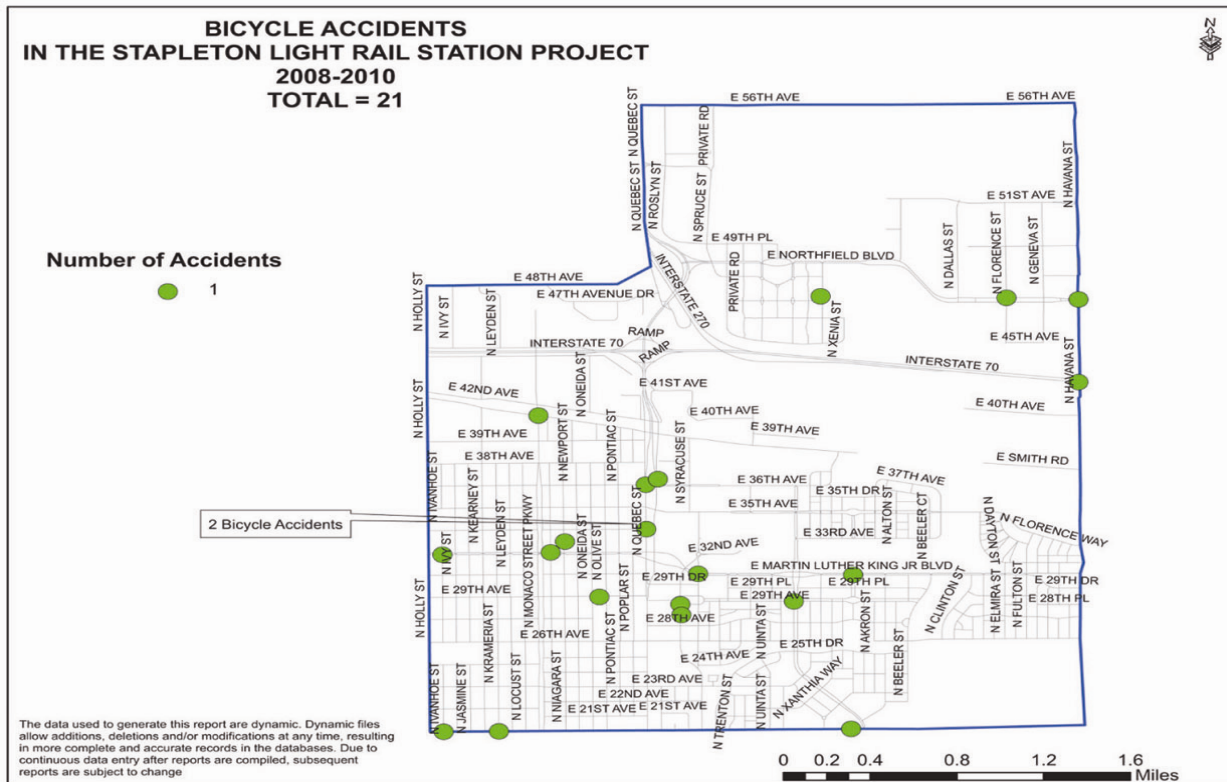
It should also be noted that there are currently no bicycle (automobile or pedestrian) connections to the Stapleton neighborhood from the portion of NW Aurora that falls into the study area. This low-income area remains completely separated from Stapleton via private industrial developments and/or fenced off open space (some of which is slated to become park space in the future). The nearest access point to the recreational amenities of Stapleton and future bicycle access to the station area occurs where the Westerly Creek trail meets Montview Blvd. near Beeler St. This trail head is at a mid block location across from Aurora's Montview Park and does not have a marked bike or pedestrian crossing for those accessing the trail from the south.

While still several years out, the master plan for Stapleton calls for extensive residential development north of I-70. These residents would be within a short bike commute of the station if bike infrastructure exists. The new Central Park Boulevard Bridge over I-70 has 12' sidewalks for bikes and pedestrians, but care should be taken to ensure that adequate connections exist from the bridge to the station.

Bicycle and Pedestrian Safety

Figure E shows vehicular accidents that involved bicycles and pedestrians within the study area from January 2008 to December 2010. During that time period 21 bicycle accidents and 27 pedestrian accidents were reported. For the most part the accidents are scattered fairly randomly across the study area. The most notable exception to this is a high number of accidents at the intersections along Quebec St. between 36th Ave. and MLK Blvd. This six block section of Quebec contained 30% of all pedestrian accidents (8-total) and 19% of all bike accidents (4-total). These numbers are not surprising given the high volume of automobile traffic on Quebec and the large numbers of pedestrians and bicyclists originating in the neighborhoods and hotel district on the west crossing Quebec to stores and restaurants located primarily on the east. Nevertheless, these numbers warrant further study of these intersections to improve safety and connectivity for those choosing to engage in active transit.

Figure E: Bicycle and Pedestrian Accidents



Crime:

One significant impediment to walking and biking is the perception that an area is unsafe due to crime. Studies have shown this to be especially true for women, children and seniors¹⁵. Table 6 shows the degree to which residents of the four neighborhoods agreed with questions related to crime. The TNHTH survey shows that residents of NE Park Hill and NW Aurora perceive crime to be a significant issue in their neighborhood. Over a quarter of residents in these neighborhoods do not even feel safe walking during the daylight hours, much less walking at night. Since walking is often a significant source of physical activity for many individuals, this perception of high crime is a real deterrent to a more healthy and active lifestyle.

Table 6

Opinions on Neighborhood Safety				
Taking Neighborhood Health to Heart Survey				
Question:	NE Park Hill	N Park Hill	NW Aurora	Stapleton
Do you believe there is a high crime level in your neighborhood?	52%	26%	58%	9%
Do you feel that crime makes it unsafe to walk during the day?	24%	4%	30%	1%
Do you feel that crime makes it unsafe to walk at night?	51%	32%	28%	8%
Do you feel that the streets in your neighborhood are poorly lit at night?	28%	18%	41%	4%

Denver Moves

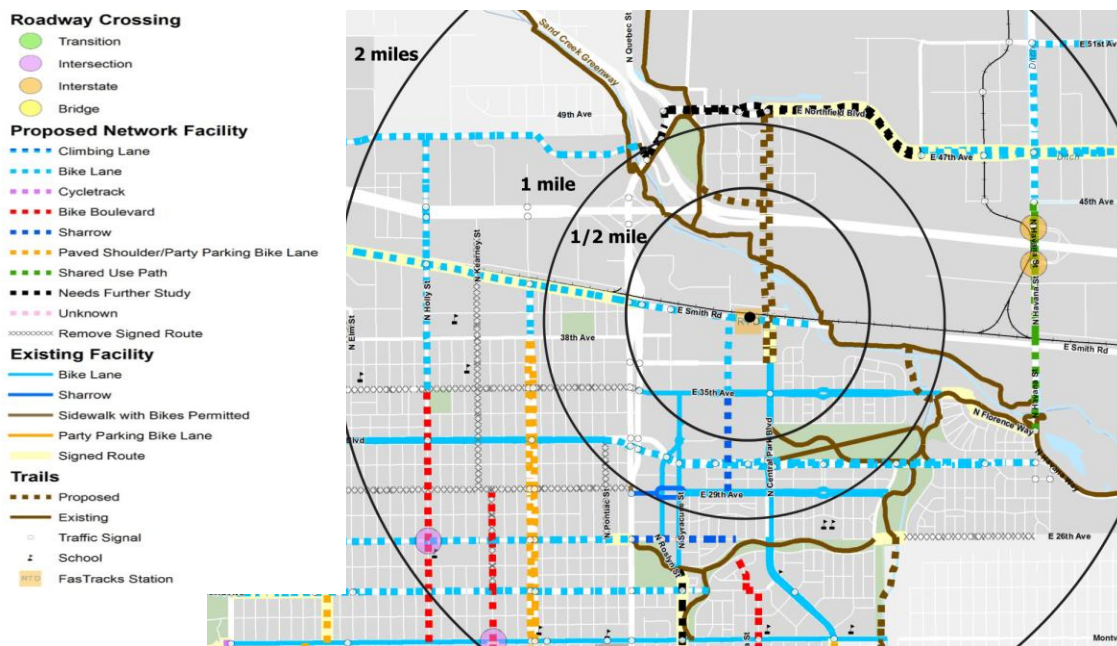
The City & County of Denver’s public works and parks & recreation departments recently prepared the Denver Moves Plan to identify places to improve the city’s bicycling and multi-modal infrastructure.¹⁶ Figure F shows places in the study area that will eventually see upgrades. We agree with these recommendations, especially as it relates to station access along Ulster, Smith Road and up into Northfield and Montbello. Nevertheless, there are a couple issues that still need to be addressed and/or where further upgrades are needed.

¹⁵ Loukaitou-Sideris A. Is it safe to walk? Neighborhood safety and security considerations and their effects on walking. J Plan Lit. 1006;20(3):219-232 (February 2006)

¹⁶<http://www.denvergov.org/bikeprogram/BicyclinginDenver/StreetsandTrails/Planning/tabid/438250/Default.aspx>

First, the Denver Moves Plan does not identify any improvements to the intersections along Quebec. This street is a huge barrier for residents who live west of Stapleton. Whether residents are trying to access the station or simply get groceries these crossings are and will continue to be a major impediment for people accessing amenities in Stapleton. Given the safety concerns and high number of accidents at some of these intersections, additional care should be taken to address connectivity here. Second, the plan does not address the current lack of connections to NW Aurora. Currently the Cities of Denver and Aurora have an intergovernmental agreement regarding the connection of the Stapleton Street grid to NW Aurora at four locations (Dayton/Emporia, Fulton, Iola and Kingston Streets)¹⁷. Creating these four connections would certainly help alleviate a large disconnect between the two neighborhoods. Creating a designated bike/pedestrian trail from the proposed Dayton/Emporia St. connection to the Westerly creek trail would help provide easy bicycle access from NW Aurora to the station area.

Figure F. Denver Moves Suggested Improvements to Bicycle Infrastructure in the Study Area



¹⁷ Denver-Aurora intergovernmental agreement

Recommendations

Recommendation 2A: Create pedestrian connections to Quebec Square from the TOD Site.

Construct sidewalks along Smith Road to Rosemary St. and provide a pedestrian connection from Walmart’s front sidewalk to the new sidewalk on Smith Road (so pedestrians do not have to cross a grassy berm and a parking lot to get to the store). A pedestrian connection should also be constructed on the south side of the Walmart to enhance pedestrian connections from the station area to the shopping center.

Recommendation 2B: Create pedestrian connections to industries and hotels north of station.

Install a sidewalk from the station area on the north side of Smith Road to Ulster St. Create a safe pedestrian crossing of the train tracks at Ulster St. and a pedestrian pathway parallel to the tracks to the hotels along Quebec St. Install directional signage and appropriate lighting for night use.

Recommendation 2C: Address the blind intersection at 36th and Willow

At a minimum signs should be put in place to alert drivers of the intersection ahead. Adding more physical traffic calming measures such as a raised median, or a narrowing of the street as it makes the curve, or a three way stop at 36th and Xanthia would help slow traffic so that they would take notice of anyone crossing the road at Willow Street.

Recommendation 2D: Ensure safe pedestrian crossings for children near the Swigert-McAuliffe International School.

Install marked crossings at 35th Avenue and Ulster Street to provide better pedestrian connections to the proposed TOD Site and station area. Adding appropriate signage or flashing lights indicating the crossings would improve safety even further.

Recommendation 2E: Implement the Denver Moves Plan.

Implementation of the Denver Moves plan would significantly increase access to bicycle connectivity in the Stapleton area. We especially encourage the establishment of a N/S bike connection from the Central Park Station to the bike lanes on 35th, Bike (and pedestrian) connections from the Station to the Sand Creek Greenway and Northfield as well as improvements to Smith Road.

Recommendation 2F: Study the potential for improved pedestrian and bicycle crossings along Quebec St. from MLK to Smith Road.

Addressing these long and often dangerous crossings is critical to allow residents west of Stapleton access to the station and retail amenities within the Quebec Square. Suggestions might include adding a traffic signal and pedestrian crossings at 33rd Avenue, and adjusting street light timing to allow more time at crosswalks and discourage high-speed through traffic. Further study is recommended to determine the best measures.

Recommendation 2G: Improve access to Stapleton for residents of NW Aurora.

Implement the Denver/Aurora Inter-Governmental Agreement, create a bike/pedestrian connection to the Westerly Creek Trail from Dayton St. and create a bike/pedestrian crossing on Montview Blvd connecting Montview Park to the Westerly Creek trails in Stapleton.

Recommendation 2H: Create safe pedestrian crossings of MLK Boulevard and study the potential for traffic calming along the street.

Multiple pedestrian crosswalks with appropriate signage should be created between Syracuse St. and Central Park Blvd. Additionally, curbside bump outs, speed tables or material changes at pedestrian crosswalks, pedestrian signaling and/or on street parking could all help tame traffic speeds on this major thoroughfare; further study is recommended for the implementation of the appropriate traffic calming devices.

Recommendation 2I: Collaborate with the Denver and Aurora Police Departments to reduce crime levels.

Support community policing programs such as neighborhood watch, walk and watch groups, and blight/graffiti elimination programs. Educate citizens about ways to decrease crime through better environmental design. Promote extra police surveillance in areas with high crime levels especially in the hours when kids are walking to and from sc

Question 3

- **What transit routes would help connect local residents and employees to the Station Area, employment centers and other local amenities**

Existing Transit Options

People who ride public transportation are able to save a significant amount of money compared to the cost of owning and maintaining a motor vehicle.¹⁸ In the Denver region, these savings add up \$860 per month or \$10,325 per year for the average household in 2011.¹⁹ Using public transportation has also been shown to promote physical activity:

- One study found that people who use public transit are three times more likely to be physically active than motorists.²⁰ Transit riders tend to walk more because they have to travel on foot to get to and from the transit stop, as well as their origins and destinations.
- Public transit users are less likely to be overweight than people who drive. Using U.S. National Household Travel Survey data, researchers found that 29% of public transit users walked over 30 minutes per day just getting to and from the station, thereby meeting the government’s recommended levels of daily physical activity.²¹
- A study of Charlotte light rail riders found that the average person lost 6.45 pounds after switching from driving to transit for a year.²²

While the new station will improve access to opportunities around the region, it cannot by itself provide enough transportation options for people living in the study area. The station is also too far away for most people to walk or bike to it. Therefore, the most practical way to encourage active transportation is to provide bus service to and from the station, job centers, and the surrounding neighborhoods.

Currently there are several bus routes within the study area as demonstrated in Table 7. High-frequency bus routes are those that provide service every 15 to 20 minutes during peak travel periods. At the moment, there are only two high-frequency bus routes that service the future station area, surrounding residential neighborhoods and other major destinations. In the short term RTD is proposing service cuts on most of its routes due to budgetary restraints. Upon completion of the commuter rail station, however, RTD is likely to improve bus service in anticipation of increased demand as it has along other rail corridors.

¹⁸ American Public Transportation Association. (2011). “Transit Savings Report and Calculator.” Retrieved from the APTA website on September 15, 2011:

<http://www.apta.com/members/memberprogramsandservices/advocacyandoutreachtools/Pages/TransitCalculator.aspx>

¹⁹ American Public Transportation Association. (2011, September 13). “Public Transportation Gets People to Work While Helping Them Save Money.” Retrieved from the APTA website on September 15, 2011:

http://apta.com/mediacenter/pressreleases/2011/Pages/110913_Sept_SavingsReport.aspx

²⁰ Lachappelle, U., & Frank, L.D. (2009). Transit and health: Mode of transport, employer-sponsored public transit pass programs. *Journal of Public Health Policy*, 30: S73-S94.

²¹ Besser, L.M. & Dannenberg, A.L. (2005). Walking to public transit steps to help meet physical activity recommendations. *American Journal of Preventive Medicine*, 29(4): 273-280.

²² MacDonald, J.M., Stokes, R.J., Cohen, D.A., Kofner, A., & Ridgeway, G.K. (2010). The effect of light rail transit on body mass index and physical activity. *American Journal of Preventive Medicine*, 39(2): 105-112.

Improving bus service to existing and future residential neighborhoods, retail and employment centers north of I-70 will be especially important, as these places will remain relatively isolated from areas south of I-70 even after the opening of the Central Park Boulevard interchange in 2012. Within the existing parts of Stapleton, expanded bus service to and from the station will likely be required—the route along Central Park Boulevard will not be sufficient to meet demand, nor will it be convenient for many residents.

One significant gap in current bus service is the lack of service to the Central Park Recreation Center. The new recreation center is a huge health amenity not only for the Stapleton community, but also for the surrounding neighborhoods. For anyone without access to a car getting to this facility requires a mile long walk from the nearest bus stop. Providing bus access to the center would allow many families and children better access to health and recreation programs and services.

Table 7. Current Bus Routes in the Study Area

Bus Routes (as of October 2011)*					
#	Transit Ctr?	Frequency	Final Destination 1	Final Destination 2	Other major stops and/or streets
28	Y	1/2 hr	Applewood	Stapleton P&R	Downtown, 30th and Downing Station, NE Park Hill (38th Ave)
38	Y	1/2 hr	Applewood	Stapleton P&R	Downtown, 30th and Downing Station, Park Hill (29th Ave)
40	Y	limited trips	Southmoor Sta	Stapleton P&R	Colorado Blvd. Colorado&1-25 station
43	Y	1/4 hr	30th and Downing	Montbello P&R	Northfield, MLK Blvd. Limited trips to Green Valley Ranch and 40th and Airport P&R
65	Y	1/2 hr	DTC	Stapleton P&R	Southmoor Station, Monaco Blvd. Limited stops at George Washington HS.
73	Y	1/2 hr	DTC	Stapleton P&R	Lowry, Quebec BLVD. J&W university, Belleview LRT station
88	Y	1/2 hr	Stapleton P&R	Northglenn Mktplace 104th&I-25	Thornton, Mile High Flea Mkt, Commerce City
105	Y	1/4 hr	Arapahoe Stn	Stapleton P&R	DTC, Greenwood Village, Havana St, Kaiser P. facility at Havana and Alameda, CPBlvd in Stapleton
ABA	Y	1hr	Boulder	DIA	Skyride to DIA
AS	Y	1/2 hr	Stapleton P&R	DIA	Skyride to DIA
44	N	1/2 hr	Applewood	40th and Airport PnR	NW Denver, Downtown, Smith Road, Montbello, Limited trips to Denver Jail complex
20	N	1/2 hr to DT	NREL	Fitzsimons Complex	Downtown, Hospitals near City Park, Montview Blvd.

* Routes and frequencies subject to change

Employment

Arguably the most essential destination for people is their job.²³ Being able to take public transportation to work can not only reduce household costs, but it also expands the reach of opportunities throughout the Denver region for those who cannot afford or do not want to own a motor vehicle, especially low-income populations. Taking public transportation also reduces congestion, which can improve air quality in neighborhoods surrounding busy roads and highways.²⁴

Public health studies have found that income is one of the strongest and most consistent predictors of health and chronic disease.²⁵ Therefore, providing access to employment opportunities is critical to improving the health and quality-of-life of all residents in the study area. These households will potentially have more time to participate in recreational activities and family interactions that lead to positive health outcomes.²⁶

Figure F shows jobs by industry within the Stapleton vicinity. Employment is concentrated to the northwest and northeast of the Central Park Station site, outside of the half-mile radius, primarily in industrial areas. Quebec Square is a major retail center within the half-mile radius. There are also several clusters of offices scattered throughout the study area. Park Hill, East Colfax and Original Aurora contain very few jobs. Most are small retail centers or office buildings. Yet these neighborhoods contain many of the area's residents, indicating that many people are traveling outside the study area to go to work, and very few are coming into the area for work.

Data from the U.S. Census Local Employer-Housing Dynamics (LEHD) database shows that there are approximately 45,032 jobs in the study area, primarily in the retail trade (13.6%), wholesale trade (12.5%) and manufacturing (11.3%) industries. Around 21.4% of these jobs pay less than \$15,000 per year and 45.7% less than \$40,000 per year. One-third require only a high school degree (30.3%).

The education and income demographics of residents living in the study area closely match the types of jobs available. LEHD data on employment of people living within the study area shows that two-thirds (66.3%) make less than \$40,000 per year and one-quarter (24.8%) make less than \$15,000 per year. Residents work in a variety of industries, with the most working in health care & social assistance (12.9%) and retail trade (10%). One-quarter of residents work in jobs that only require a high school degree or less. As mentioned above in Question 1, some of the study area's neighborhoods have a high percentage of residents with no more than a high school degree, especially Northwest Aurora. These residents could benefit from improved bus service to job

²³ The Solid Facts: Social Determinants of Health. World Health Organization. Europe 2004.

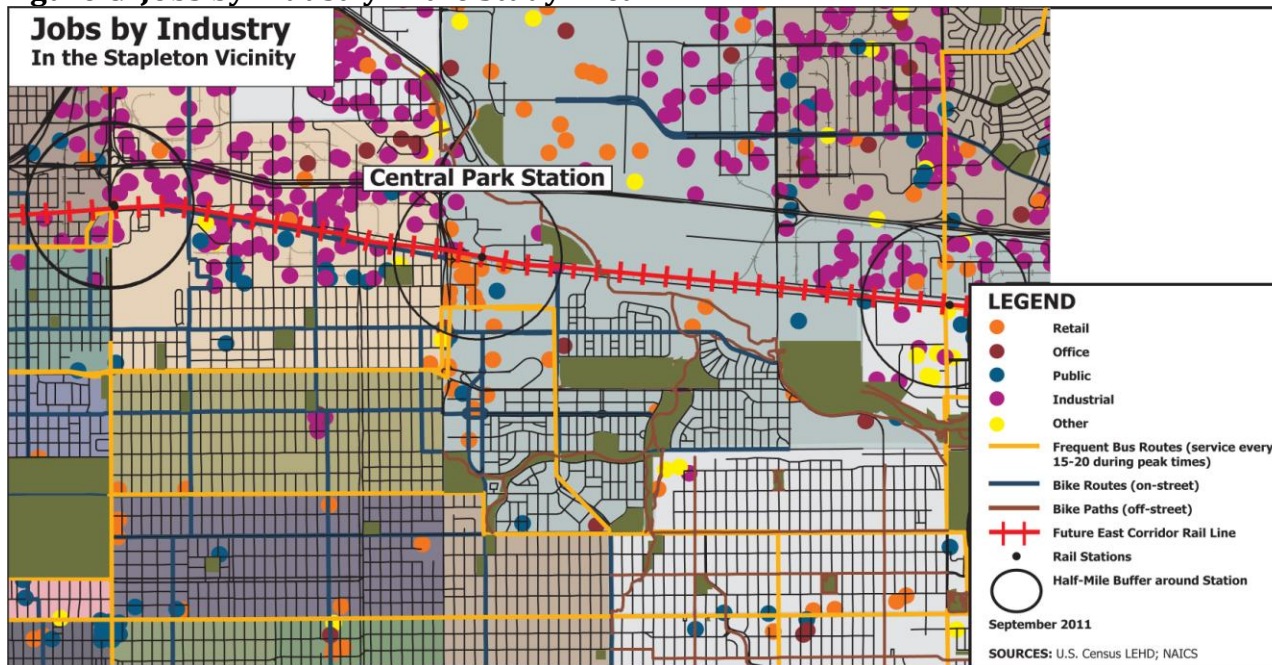
²⁴ 16. Cervero R, Duncan M. Which reduces vehicle travel more: jobs-housing balance or retail-housing mixing? *Journal of the American Planning Association*. 2006;72(4):475-490.

²⁵ Yen I, and Bhatia R. How Increasing the Minimum Wage Might Affect the Health Status of San Francisco Residents: A Discussion of the Links Between Income and Health, Working Paper, February 27, 2002.

²⁶ Morris JN, Donkin AJ, Wonderling D, Wilkinson P, Dowler EA. A minimum income for healthy living. *J Epidemiol Community Health*. 2000; 54(12):885-9.

centers within the study area, as well as job centers outside the study area via the new commuter rail line.

Figure G. Jobs by Industry in the Study Area



Recommendations

Recommendation 3A: Provide enhanced bus service to the station from surrounding neighborhoods along major streets including Martin Luther King Blvd, Quebec Street, Moline Street, and Northfield Blvd.

There already exist high-frequency bus routes to the station from many surrounding residential neighborhoods and major job centers, but there are also major gaps along busy streets such as MLK Blvd to the east, Quebec from the north and south, Moline Street from the south, and Northfield Blvd to the east and west. Given the large number of jobs and residents within a half-mile of these streets, RTD should consider providing more frequent bus service along these streets or establishing new service to provide greater access to jobs and other destinations via transit.

Recommendation 3B: Extend the 44 Route into the Central Park Station.

This bus route currently stops at Smith Road and Quebec Boulevard before heading onto I-70 and then to the Montbello neighborhood. By extending the route to the new station, it will increase access to employment opportunities for the residents of Montbello, which is currently isolated from the rest of Denver by I-70, and will not see any improvements in transit service with the new East Corridor rail line. The 44 line also travels west to the Highlands neighborhoods of Denver as well as out to Wheat Ridge, so it would connect people living in the station area to those areas of the region as well.

Recommendation 3C: Provide enhanced, circulator-type bus service to the station from neighborhoods within Stapleton.

In addition to connecting surrounding neighborhoods to the station, the Stapleton neighborhood itself is quite large and residents would benefit from better bus service taking them to and from the station and other local destinations such as the library, E. 29th Ave. Town Center, Central Park Recreation Center, and the planned Eastbridge Town Center. There should be routes that allow everyone living within Stapleton to walk to a bus stop within 10 to 15 minutes.

Recommendation 3D: Provide enhanced bus service to the station from major employment centers, especially the Fitzsimons medical campus and industrial areas north of I-70.

The employment maps show that the study area contains a large amount of jobs, especially in the retail and industrial sectors. These jobs are concentrated in industrial areas north of I-70, in retail centers near the station (Quebec Square) and north of I-70 (Northfield), and east of the station in the Fitzsimons medical campus. RTD should provide high-frequency bus service to these employment centers from the Central Park Station and also encourage employers to provide incentives for taking transit to work.

Recommendation 3E: Improve the safety and attractiveness of bus stops with amenities such as covered shelters, longer benches and improved lighting.

Many of the area’s bus stops contain little more than a sign designating the site as a bus stop. In order to make taking the bus an attractive option, as well as increase the safety and comfort of those waiting for a bus, each bus stop needs certain amenities such as shelters, benches and lighting. This is especially important in high-crime neighborhoods where safety is a major concern. It is also important to have good amenities at stops near senior housing facilities.

Recommendation 3F: Study the feasibility of service to Dick’s Sporting Goods Park, Northfield and other destinations north of I-70 as development is built out.

The portion of Stapleton north of I-70 is going to see increased construction activity in future years, and new residential development will increase the number of people living in this area. This area also contains a major retail destination (Northfield) and sporting venue (Dick’s Sporting Goods Park). Once the new station opens and this area gets built out, there will be increased demand for connections between the north and south sides of Stapleton.

Recommendation 3G: Modify the 65 bus route to provide access to the MLK Recreation Center

Extending route 65 along Monaco Blvd, to 38th avenue and then routing it east past the MLK Recreation Center would help provide needed access to this recreation amenity. Doing so would also increase north/south connectivity in the neighborhood and create additional transit options in the NE Park Hill neighborhood.

Recommendation 3H: Conduct focus group sessions and/or complete a community survey to prioritize transit service upgrades

It is hard to determine which transit service improvements are most important without feedback from local residents and stakeholders (especially those who take transit regularly). By conducting a survey and/or holding several focus groups a list of priorities should be drafted and presented to RTD.

Question 4

- **What programming and/or housing policy would be necessary to ensure a diverse population of the people, within the neighborhoods in the study area, benefit from the development of the TOD Site?**

Existing Housing Status

“TOD is really about creating walkable, sustainable communities for people of all ages, races and incomes and providing more transportation and housing choices (including townhomes, apartments, live-work spaces, and lofts). These neighborhoods provide for a lifestyle that’s convenient, affordable and active, and create places where our children can play and our parents can grow old comfortably.”²⁷—Center for Transit-Oriented Development, 2006.

Determining the right mix of housing near a transit station is a vital component of creating a transit-oriented community. The demand for housing near transit is increasing, and the Center for Transit-Oriented Development (CTOD) estimates that by 2030, almost a quarter of all U.S. households will want to live in a TOD. To meet this demand, every existing and planned transit station in the U.S. would have to build 2,000 housing units by 2030.²⁸ In the Denver region, demand for housing near transit could grow to 155,000 households by 2030, up from 45,000 in 2006.²⁹

The types of households who will seek housing near transit will vary, requiring a mix of different housing types at different price levels. Given high demand, the price for housing near transit may be too high for many who desire to live there, especially those who would benefit financially from living in a compact, transit-oriented community. Generally speaking housing is affordable if it constitutes no more than one-third of a household’s annual income.³⁰ If you factor in reduced transportation costs by living in a transit oriented community, however, households may be able to afford somewhat higher housing costs. CTOD estimates that at least 40% of the demand for TOD in the Denver region will come from those making less than 80% of the area median income, which was \$51,600 for a family of three in 2006.³¹ Ensuring that there is affordable and mixed-income housing near transit is thus critical to improving the health and quality-of-life of the Denver region’s residents.

²⁷ Center for Transit-Oriented Development. (2006). *Why Transit-Oriented Development and Why Now?* Available at <http://reconnectingamerica.org/resource-center/books-and-reports/2007/tod-101-transit-oriented-development-and-why-now/> (last accessed September 18, 2011)

²⁸ Center for Transit-Oriented Development. (2004). *Hidden in Plain Sight: Capturing the Demand for Housing Near Transit.* Available at: <http://www.reconnectingamerica.org/resource-center/books-and-reports/2004/hidden-in-plain-sight-capturing-the-demand-for-housing-near-transit/> (last accessed September 18, 2011)

²⁹ Center for Transit-Oriented Development. (2005). *Hidden in plain sight: Capturing the demand for housing near transit.* Available at <http://ctod.org/portal/node/2192> (last accessed October 1, 2011).

³⁰ U.S. Department of Housing and Urban Development. <http://www.hud.gov/offices/cpd/affordablehousing/>

³¹ Center for Transit-Oriented Development. (2005). *Hidden in plain sight: Capturing the demand for housing near transit.* Available at <http://ctod.org/portal/node/2192> (last accessed October 1, 2011).

According to the Center for Housing Policy, affordable housing can lead to better health outcomes at the individual and community levels by:³²

- Freeing up family resources for healthy, nutritious food and health care expenditures. Households spending a significant portion of their income on housing have to make hard choices about the food they buy and the medical treatments they need. By lowering these costs for low-income households, affordable housing enables them to live healthier lifestyles. Studies show that families paying more for housing pay less for health care.³³
- Providing residential stability— affordable housing allows people to live in one place for a significant period of time, which can reduce the stress and anxiety of paying bills and making ends meet.
- Fostering social cohesion among neighbors and developing an emotional investment with a neighborhood.
- Allowing seniors to age in place.
- Providing a stable and efficient platform for the ongoing delivery of health care and other necessary services to people with chronic illnesses and diseases, the disabled, the elderly and other special populations.³⁴

Existing affordable housing in the study area is concentrated in the neighborhoods surrounding Stapleton—Park Hill, East Colfax, and Original Aurora (see Figure I). These neighborhoods contain a mix of rental and for-sale units, including³⁵:

- Multifamily apartments with income restrictions or subsidized rents (via HUD’s Section 8 vouchers and Low Income Housing Tax Credits)
- Deed-restricted single-family homes available for ownership at reduced rates
- Unrestricted market-rate units available for rent or for sale that are considered affordable to:
 - Rentals: Those making less than 60% of the Area Median Income
 - For-Sale: Those making less than 100% of the Area Median Income for a family of four on for-sale units.

³² Lubell, J., Crain, R. & Cohen, R. (2007). *Framing the issues: The Positive Impacts of Affordable Housing on Health*.

³³ Lipman, Barbara J. 2005. *Something’s Gotta Give: Working Families and the Cost of Housing*. Washington, DC: Center for Housing Policy.

³⁴ For additional references on housing and health, see San Francisco Department of Public Health, Program on Health, Equity, and Sustainability. *The Case for Housing Impacts Assessment: The human health and social impacts of inadequate housing and their consideration in CEQA policy and practice*. May, 2004. Available at: http://dphwww.sfdph.org/phes/publications/PHEs_publications.htm

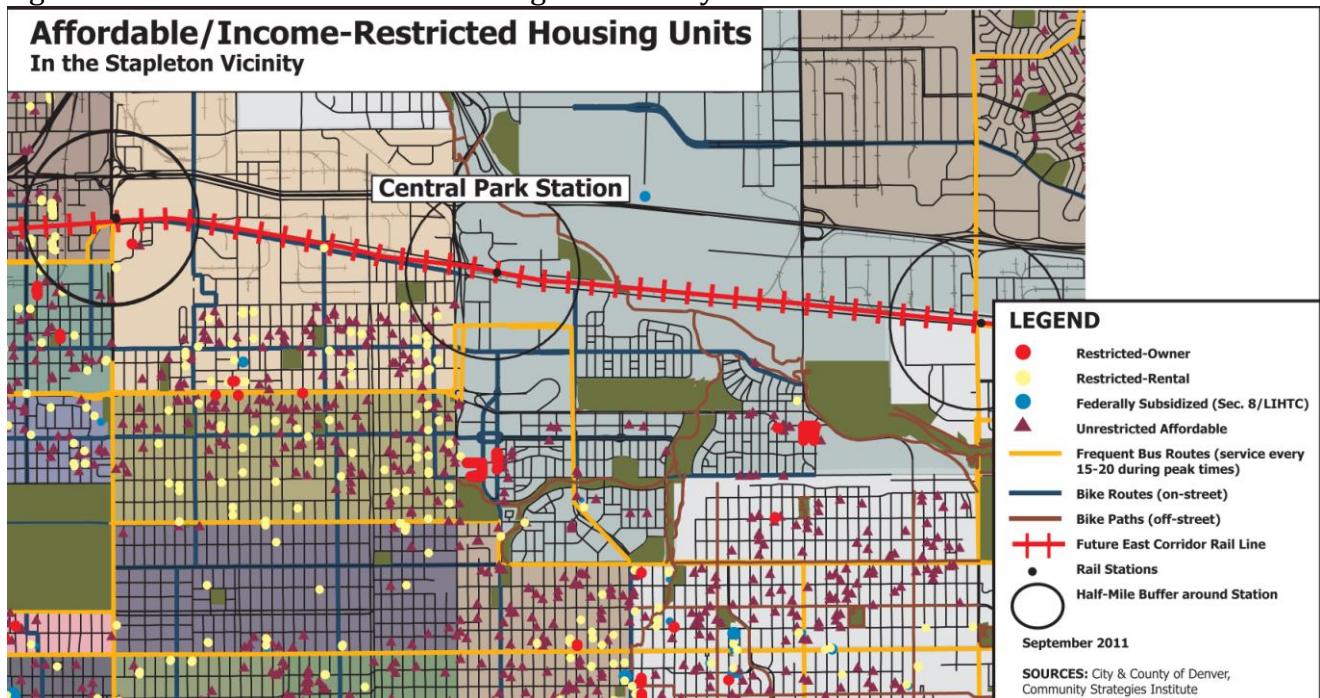
Cohen R. 2007. *The Positive Impacts of Affordable Housing on Health: A Research Summary*. Enterprise Community Partners, Center for Housing Policy.; Stein L. A study of respiratory tuberculosis in relation to housing conditions in Edinburgh; the pre-war period. *Br J Soc Med*. 1950;4:143-169; Graham NM. The epidemiology of acute respiratory infections in children and adults: a global perspective. *Epidemiol Rev*. 1990;12:149-178; Sabel C, Fung A, Karkkainen B. 2000. *Beyond Backyard Environmentalism*. Boston: Beacon Press.

Zima BT, Wells KB, Freeman HE. 1994. Emotional and behavioral problems and severe academic delays among sheltered homeless children in Los Angeles County. *American Journal of Public Health*. 84:260-264; Barrow SM, Herman DB, Cordova P, Stuenkel EL. 1999. Mortality among homeless shelter residents in New York City. *American Journal of Public Health* 1999;529-534; Franzini L, Spears W. Contributions of social context to inequalities in years of life lost to heart disease in Texas, USA. *Soc Sci Med*. 2003;57(10):1847-1861.

³⁵ Data comes from the Community Strategies Institute, which was contracted by the City & County of Denver’s Office of Economic Development to create a database of all affordable housing units within the 7-county Denver region.

Stapleton itself contains several income-restricted housing units, though all are outside the station’s half-mile radius (see Figure H). There are plans for a new affordable housing development at the northeast corner of the intersection of 36th Avenue and Central Park Blvd, within walking distance of the Central Park station (see Figure J).³⁶ According to the Stapleton master plan, 10% of all for-sale units and 20% of all rental units within the entire development will be income-qualified.³⁷

Figure I. Location of Affordable Housing in the Study Area

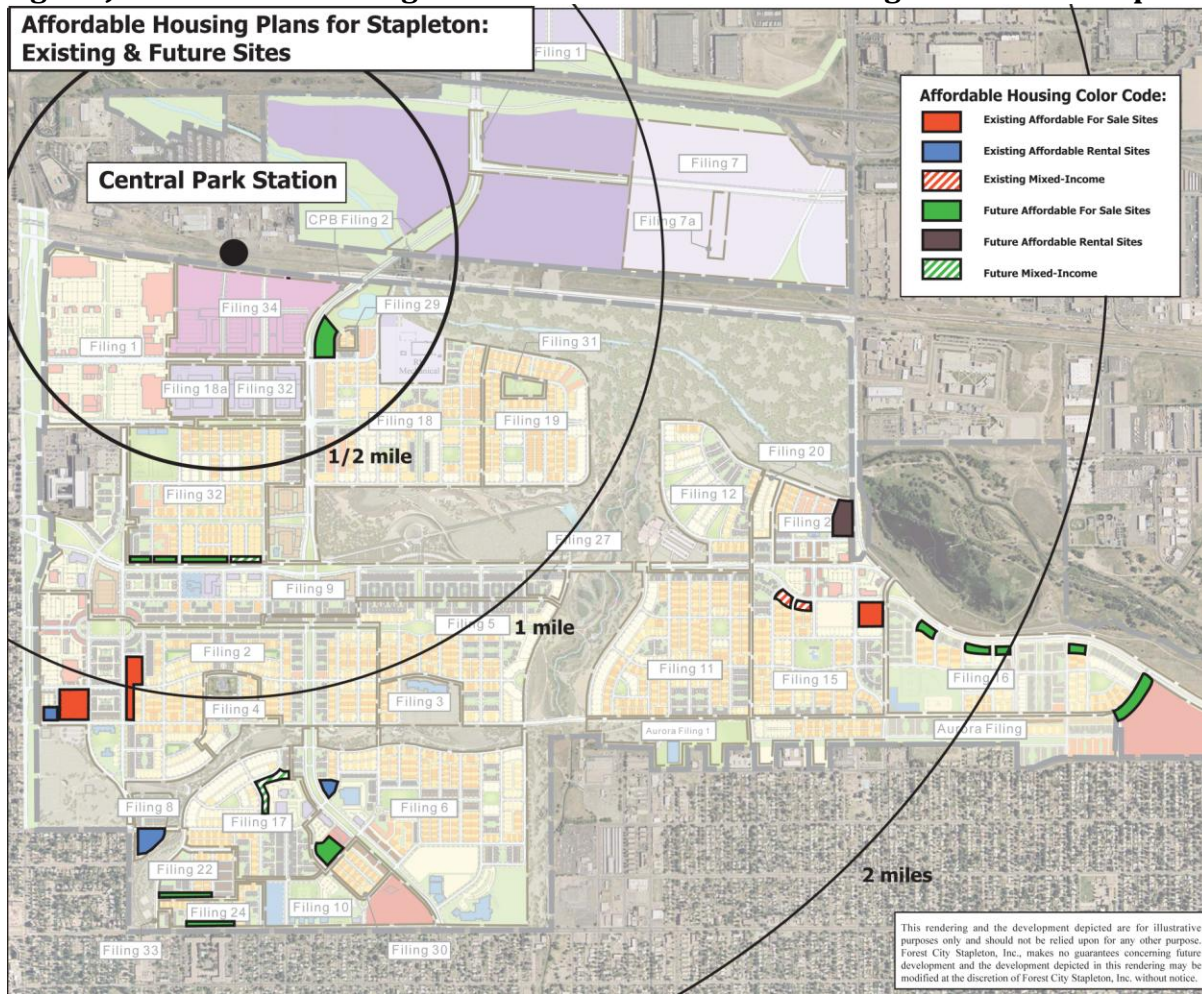


The study area also contains a large amount of market-rate multifamily apartments and single-family residences for rent (mostly outside of the Stapleton Neighborhood). These households will also benefit from having improved access to transit, but depending on their location and proximity to the station may see their rents increasing if property values rise as a result of the new service. This may threaten the affordability of such units and create a larger affordability problem, but it is hard to determine the extent of this phenomenon as many other factors are involved.

³⁶ Stapleton Denver. *Stapleton’s Affordable Housing Program*. Available at <http://www.stapletondenver.com/community/affordable-housing> (last accessed October 2, 2011)

³⁷ Stapleton Denver. *Stapleton’s Affordable Housing Program*. Available at <http://www.stapletondenver.com/community/affordable-housing> (last accessed October 2, 2011)

Figure J. Location of Existing and Planned Affordable Housing Sites within Stapleton



Diversity and Inclusivity

As a high density TOD the Central Park Blvd Station has the potential to add a diverse range of incomes, ages, races and cultures to the Stapleton community. It is important to have a focused and deliberate strategy on diversity and multiculturalism – not because it is the right thing to do or because we have a social responsibility, but because diversity is one of the most significant drivers of success toward a competitive, sustainable, equitable and challenging community environment. Supporting diversity can mean promoting economic vitality, cross-fertilization of ideas, social cohesion (knowing and trusting ones neighbors), equitable distribution of resources, and people being able to age in place.

One of the primary strategies for creating a diverse community is to create a large variety of housing types and sizes at multiple price points. Market rate and low-income housing should come in a variety of sizes that allows for a diverse range of households from single individuals to families with children Furthermore, the development should aim to mix low income housing throughout the development rather than constructing it all in one place.

Recommendations

Recommendation 4A: The TOD Site should contain 20-40 dwelling units per acre (gross).

Overall, the housing footprint at the station needs to be denser than the rest of Stapleton, not only to support transit ridership, but also to support the variety of retail and office uses that should be a vital part of a transit-oriented community. To make Stapleton a sustainable, diverse, equitable neighborhood, the TOD site should contain at least 20 to 40 dwelling units per acre.³⁸

Recommendation 4B: Prioritize the building of the new affordable housing development at 36th Avenue and Central Park Blvd.

For the reasons outlined above, households living near transit can save money and live a healthier lifestyle by living near high-quality public transportation that goes to the places they need to work and take care of their daily needs. Placing affordable housing near the station provides those with the most need to take transit with the best access to it. But market forces often leave communities with little leverage to build affordable housing if it is not part of the initial plan.³⁹ Fortunately, affordable housing is part of the master plan already. This development should be built first before market forces create high demand for living in the station area, and also to provide a catalyst for future affordable housing investments in the station area.

Recommendation 4C: Provide a variety of housing types near the station, ideally 50% rental units and 20% affordable to those making less than 80% of Area Median Income.

The region's apartment vacancy rate is near an all-time low, indicating a high demand for not only rental units, but also for higher density development near jobs, retail, and other services. The station area is a perfect place to meet this demand and provide a greater balance between the primarily owner-occupied single-family housing units surrounding the station. The station area is zoned C-MX-16, which allows multifamily, high-density development, so zoning is in place to provide more rental units. The TOD should aim for making at least 50% of new units available for rent. Given the current demand for affordable housing near transit at least 20% should be made affordable. This affordable housing standard is actually lower than the goal set by the Mile High Transit Opportunity Collaborative (25%) and consistent with many other TOD inclusionary housing policies.⁴⁰

Recommendation 4D: Mix low income housing with market rate housing in the same buildings

Mixing market rate housing and low income housing in the same building helps reduce the stigma of poverty by ensuring that no one building will be known as the "low-income building." It also helps those of lower-incomes to mingle and interact with those who have more access to opportunity and vice versa.

³⁸ This is a general rule for housing near transit and advocated by the San Francisco Department of Public Health in its Healthy Development Measurement Tool.

³⁹ Center for Transit-Oriented Development. (2007). *The case for mixed-income transit-oriented development in the Denver region*. Available at: <http://www.reconnectingamerica.org/resource-center/browse-research/2007/the-case-for-mixed-income-transit-oriented-development-in-the-denver-region/> (last accessed October 1, 2011).

⁴⁰ Center for Transit-Oriented Development, (2009). *Mixed Income Housing: Increasing Affordability with Transit*. Available at: <http://www.reconnectingamerica.org/assets/Uploads/091030ra201mixedhousefinal.pdf>

Recommendation 4E: Conduct an inventory of affordable housing units, especially rental units, to understand the market and address future needs.

As the maps above illustrate, there are multiple affordable housing units within the study area, and one planned for the station area. In order to figure out the amount of units that should be built within the station area, as well as the percentage of units within the station area that should be offered as rentals, there is a need to assess the current market and determine supply and demand. Especially what income levels are in most need of affordable housing—is everyone making less than 80% of the Area Median Income or should it be targeted at those at the lowest levels of poverty (less than 30% AMI). Conducting this type of inventory will better inform planning decisions in the station area than relying on arbitrary numbers from case studies or other station areas in the region.

Recommendation 4F: Utilize the Denver TOD Fund and Mile High Transit Opportunity Collaborative for financing and technical assistance of affordable housing near the station.

Finding developers willing to build affordable and mixed-income housing will be a challenge without incentives. Denver is fortunate to be one of the few cities in the country to have an affordable housing fund providing resources to acquire land near transit and a regional equity coalition, the Mile High Transit Opportunity Collaborative (MHTOC), has local and national expertise on this issue. The goal of the \$15 million Denver TOD Fund is to create and preserve over 1,000 affordable housing units near transit in the next ten years, and the Central Park Blvd station is an opportune site to create units that further progress toward this goal. The Stapleton Foundation, Forest City and other stakeholders should work with the Urban Land Conservancy and Enterprise Community Partners, the managing partners of the Fund, to explore opportunities to acquire land for more affordable housing than is currently being planned.

Recommendation 4G: Consider a joint development with RTD to create more affordable housing at the TOD Site.

RTD recently passed a new joint development policy allowing it to work with private developers to build new developments on RTD-owned land.⁴¹ These projects must consider including affordable housing. Transit agency joint developments have been shown to be very effective in creating affordable housing units—at least 3,408 affordable housing units have been created through transit agency joint development as of 2010.⁴² An additional 17 project were in planning or development as of 2010 to create an additional 1,813 units. Because RTD owns land in the station area, this could be a prime site for new affordable housing.

⁴¹ Regional Transportation District. (2010). *TOD Strategic Plan*. Available at http://www.rtd-fastracks.com/media/uploads/main/TODStrategicPlan-final_090210.pdf (last accessed October 2, 2011).

⁴² Kniech, R. & Pollack, M. (2010). Making affordable housing at transit a reality: Best practices in transit agency joint development. Available at <http://www.fresc.org/article.php?id=394> (last accessed October 1, 2011).

Recommendation 4H: Provide safe, convenient connections to the station from existing affordable housing.

There are numerous single- and multi-family housing units with income restrictions within Stapleton and in its surrounding neighborhoods. The residents of these units need safe, convenient access to the station. Within Stapleton, streets such as Central Park Blvd, MLK Blvd., Syracuse Street, 26th, 29th and 35th Avenues should be upgraded with safer crosswalks, flashing signals and other improvements to make walking or biking to the station safer. In surrounding neighborhoods, sidewalks and crosswalks along streets with major bus routes such as Martin Luther King Blvd., Montview, and Quebec should be upgraded or installed if not already in place.

Recommendation 4I: Conduct health impact and green building assessments of the current affordable and rental housing stock to identify any major health issues.

This health impact assessment primarily addresses the physical conditions of the built environment, not the condition of current structures within the study area. The neighborhoods surrounding Stapleton contain an older housing stock that may be susceptible to hazardous conditions, such as indoor air quality issues and mold. This is especially a concern for the area's multiple affordable housing units. Conducting an assessment of the conditions of these buildings would identify areas that need improvements and determine the cost of "greening" these structures to national building standards.

Recommendation 4J: Include senior housing at the TOD Site especially for low-income seniors.

In addition to affordable and mixed-income housing, the TOD Site should include senior housing. Older adults benefit from living in communities where they do not have to own a car and drive several miles to take care of their daily needs. There is already a relatively high percentage of seniors living in the surrounding neighborhoods (14% in North Park Hill, for example), and the adult population in Stapleton likely has parents who would benefit from living nearby. Currently, Clyburn Village is the closest senior housing facility but it is too far from the station to walk. The next closest is the Liggins Tower complex in Northeast Park Hill.⁴³ In the coming years, the demand for senior housing is likely to outstrip supply, and the Central Park station area is a prime site to provide it, especially in the area south of the station zoned for high-density, mixed-use development (C-MX-16).

⁴³ Liggins Tower website, available at <http://www.wix.com/grannygeek/liggins-towers> (last accessed October 2, 2011).

Question 5

- **What need (if any) is there for a grocery store that sells and promotes healthy and affordable food items near the TOD Site?**

Existing Food Access

“Without access to supermarkets, which offer a wide variety of foods at lower prices, poor and minority communities may not have equal access to the variety of healthy food choices available to nonminority and wealthy communities.”⁴⁴ —American Journal of Preventative Medicine, 2002. Poor access to healthy food choices is associated with higher obesity and diabetes rates, which occur in higher rates among people living in low-income communities with worse food environments.

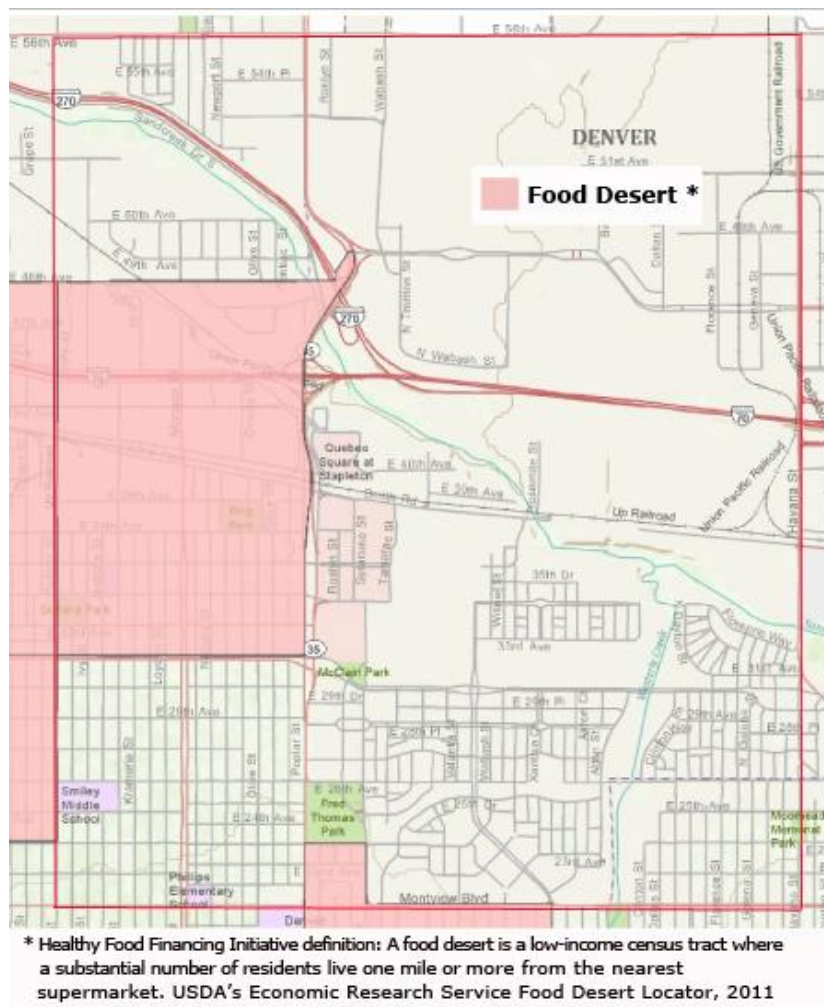
According to the USDA’s Economic Research Service Food Desert Locator, a food desert is defined as “a low income census tract where a substantial number or share of residents has low access to a supermarket or large grocery store.” The Locator’s definition of low access is a census tract in an urban area where the majority of the tract is more than one mile from a supermarket or large grocery store.⁴⁵ The Food Desert Locator offers an online tool that maps the areas of the U.S. that fall under the above definition of food desert. Figure K shows the census tracts within our study area that are considered to have poor access to grocery stores.

A closer review of grocery retailers within the study area reveals there are three full-service grocery outlets and one smaller neighborhood store, a Hispanic carniceria, that sell fresh fruits and vegetables. Though the majority of residents have less than a mile to travel to reach one of these stores, there are still many people living outside of a grocery store’s one-mile radius. (See Figure L) For those living outside the radius within the Stapleton neighborhood this distance is likely not an issue given the affluent nature of the population. For those in NE Park Hill, however, this distance may represent a serious challenge. It should be noted, that the small carniceria has a more limited food selection than the full service groceries. Therefore, there may also be food access issues in the low-income neighborhood of NW Aurora.

⁴⁴ Morland, K., Steve Wing, Ana Diez Roux, Charles Poole. (2002) “Neighborhood characteristics associated with the location of food stores and food service places.” *American Journal of Preventive Medicine*, Volume 22, Issue 1. Pages 23-29.

⁴⁵ Food Desert Locator. (2011) Economic Research Service, United States Department of Agriculture. Available at: <http://www.ers.usda.gov/data/fooddesert/>

Figure K. Food Access



The Community Development Investment Review states that, transportation issues also exacerbate food access problems. “The same groups that are less likely to live near a supermarket are also less likely to have an affordable, convenient way to travel to one.”⁴⁶ All the grocery stores in the study area are located along a major arterial roadway presenting a challenge for those with out access to a vehicle. Quebec St., for instance, creates a significant barrier to food access for the residents of NE and N Park Hill. Many residents within these neighborhoods have low incomes and these challenges of distance and traffic put those residents at a special disadvantage.

⁴⁶ Bell, J., Marion Standish. Community Development Investment Review, Volume 5, Issue 3. (2009) Building Healthy Communities Through Equitable Food Access. Federal Reserve Bank of San Francisco.

Figure L. Food Access



Given these access issues to the existing grocery stores, increasing connectivity between neighborhoods, should be a major focus to increase health equity.⁴⁷ Bolstering and promoting efforts to reduce driving time, e.g. offering healthy food choices within shorter distances, have been shown to be effective health interventions.⁴⁸ Investing in infrastructure improvements to “last mile” connections would allow more people to safely and conveniently access grocery stores and other retail destinations in the study area. Strategies to improve connectivity are discussed at length in Questions 1 and 2 above.

⁴⁷ Treuhaft, S., A. Karpyn (2010) The Grocery Gap: Who Has Access to Healthy Foods and Why It Matters. Policy Link and The Food Trust. Available at: <http://www.policylink.org/atf/cf/{97C6D565-BB43-406D-A6D5-ECA3BBF35AF0}/FINALGroceryGap.pdf>.

⁴⁸ Frank, Lawrence D., Martin A. Andresen, Thomas L. Schmid. (2004) Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars. American Journal of Preventive Medicine, Volume 27, Number 2. Available at: doi:10.1016/j.amepre.2004.04.011.

Grocery access at the proposed commuter rail station

The proposed Central Park Blvd Station is on the northern edge of the Stapleton neighborhood. The station will be within 1/3 of a mile from the Wal-Mart Supercenter, which offers a full-service grocery store. Based on distance, residents at the TOD Site would have good food access. In order to reach this destination from the commuter rail station, however, people would have to travel along Smith Rd., which is currently not a pedestrian or bicycle-friendly corridor (See Recommendation 1B). Though travelers will be a relatively short distance to this location, the lack of sidewalk and bike lane infrastructure provides a significant barrier to accessibility.

Given the high level of multi-modal access at the commuter-rail station, it has been suggested by members of the community that a grocery store be placed near the station. While there will be greater density at the station and greater visibility, it is reasonable to assume that additional, large-scale grocery chains will not desire to be located far from a major arterial roadway (i.e. Quebec St.) and within a short distance from Walmart, Super Target and King Soopers.

Urban Agriculture

Urban agriculture is the act of growing, processing and distributing food in, or around an urban area. Research indicates that access to healthy food is not the only benefit to growing food locally. A report filed by the Community Food Security Coalition indicates that urban agriculture investment builds safe, healthy, and green environments in neighborhoods, schools, and abandoned areas⁴⁹

The TOD Site provides an opportunity to partner with existing organizations to increase community gardening, add seasonal farmers' markets and increase nutrition and healthy eating educational programming to both children and adults. A public plaza could provide a multi-functional area for this market and could be used for other planned activities and educational outreach (see Recommendation 1F above). There are currently two weekly farmer's markets operating in Stapleton, one at the E 29th Ave. Town Center and one at Northfield. Market research and community outreach is necessary to fully understand the viability of an additional Stapleton market on the station property.

The Urban Farm at Stapleton (TUF) is a working farm within the study area that works to provide agricultural and environmental education to urban children, youth and their families. In addition to the farm, TUF features a 20,000 square foot indoor teaching barn, a 20,000 square foot Children's Garden with a greenhouse, 24 horse paddocks, many small livestock enclosures and a 5,000 sq. ft. education and office building adjacent to the Farm site.⁵⁰ TUF is a strong community asset and could become a great partner to the Central Park Blvd Station development, and TUF's educational facilities provide an opportunity for community development that could be a co-benefit to a station/farm partnership.

⁴⁹ Bellows AC, Brown K, and Smith J. (2003) *Health Benefits of Urban Agriculture*. Community Food Security Coalition. Available at: <http://www.foodsecurity.org/UAHealthArticle.pdf>.

⁵⁰ The Urban Farm at Stapleton. <http://www.theurbanfarm.org/>

Figure M: The Urban Farm at Stapleton



Denver Urban Gardens (DUG) is a nonprofit that offers neighborhoods the essential resources for community gardening. DUG’s services range from helping to secure land, to designing gardens, to providing organization, leadership, outreach and maintenance.⁵¹ DUG has two community gardens within the study area. One is located at 23rd Ave. near Spruce and the other is at Smith Rd. near Havana. There are several other known gardens just outside the border; one of which is not currently affiliated with DUG. These gardens are also available to residents within the study area, but are outside the scope of this project.

DUG also offers an educational outreach program called “School Garden and Nutrition Curriculum.” This program uses non-traditional outreach to teach disadvantaged populations about nutrition, health and growth. The course, taught by DUG experts, includes learning opportunities both inside and outside of the classroom, incorporating gardening activities into the class design.⁵²

DUG-affiliated gardens are consistently filled to capacity each growing season and have waiting lists. DUG does not currently have plans to create any additional gardens into the study area. A conversation with Shannon Spurlock, Community Initiatives Coordinator for Denver Urban Gardens, revealed that DUG typically waits for a community to come to them to request a garden and that a garden without strong community support often struggles and occasionally becomes a weedy blight instead of a community asset.⁵³ In addition, the acquisition of a water tap on the garden site can be expensive, so community support is essential.

⁵¹ Denver Urban Gardens. <http://dug.org/>

⁵² DUG’s full (and recently updated) curriculum is available at: <http://dug.org/school-garden-curriculum/>.

⁵³ A phone conversation with Shannon Spurlock, DUG’s Community Initiative Coordinator occurred on October 3, 2011. The conversation was to discover plans for any new community gardens, and to discuss how DUG decided about new projects.

DUG's Smith Rd. garden is on The Urban Farm property and is administered by TUF. At a distance of 1.5 miles, TUF's location is the closest community garden to the station site. Since 1.5 miles is outside a comfortable walking distance, there is an opportunity to explore bringing additional gardens into the station vicinity in particular and also around the study area in general.

Availability of Fast Food

Increasing the access to healthy food is not the only tool that is being used to encourage healthier eating habits. Some regions are restricting neighborhood fast-food outlets using zoning and economic development incentives.⁵⁴ People who live near an abundance of fast-food restaurants and convenience stores as well as a scarcity of grocery stores and fresh produce vendors, have a significantly higher prevalence of obesity and diabetes.⁵⁵ These areas are oftentimes low-income or high minority areas.⁵⁶

Discouraging these types of businesses during development can help to encourage healthier eating habits. The Retail Food Environment Index (RFEI) is a measurement tool, which provides an indicator for the density of fast food retailers.⁵⁷ The HDMT describes the RFEI as, "a ratio describing the relative abundance of different types of retail food outlets in a given area," where a "higher RFEI is associated with a higher prevalence of obesity and diabetes for people living in lower-income and higher RFEI communities.⁵⁸ An RFEI of 3 or less is a positive indicator and 5 or greater is negative. Currently, the Denver Metro region is at a 4.76.⁵⁹ This relationship between RFEI and obesity and diabetes rates was found to hold true regardless of household income, race/ethnicity, age, gender, or physical activity levels of respondents.⁶⁰

⁵⁴ The Center for Disease Control and Prevention provides a web-based resource that lists actions municipalities have taken to encourage healthier eating. This resource is available at:

http://www2.cdc.gov/phlp/winnable/zoning_obesity.asp

⁵⁵ Flourney, Rebecca. (2010) Healthy Food, Healthy Communities: Promising Strategies to Improve Access to Fresh, Healthy Food and Transform Communities. Policy Link. Available at: http://www.policylink.org/atf/cf/{97c6d565-bb43-406d-a6d5-eca3bbf35af0}/HFHC_SHORT_FINAL.PDF

⁵⁶ Treuhaft, S., A. Karpyn (2010) The Grocery Gap: Who Has Access to Healthy Foods and Why It Matters. Policy Link and The Food Trust. Available at: <http://www.policylink.org/atf/cf/{97C6D565-BB43-406D-A6D5-ECA3BBF35AF0}/FINALGroceryGap.pdf>.

⁵⁷ *Designed for Disease: The Link Between Local Food Environments and Obesity and Diabetes*. 2008. California Center for Public Health Advocacy, PolicyLink, and the UCLA Center for Health Policy Research. Available at: http://www.healthpolicy.ucla.edu/pubs/files/Designed_for_Disease_050108.pdf

⁵⁸ San Francisco Department of Public Health. The Healthy Development Measurement Tool. Indicator PI.8.d Retail Food Environment Index Score webpage. Available at: <http://www.thehdmt.org/indicators/view/248>.

⁵⁹ Food Environment Atlas. Economic Research Service. United States Department of Agriculture. Available at: <http://www.ers.usda.gov/foodatlas/>.

⁶⁰ San Francisco Department of Public Health. The Healthy Development Measurement Tool. Indicator PI.8.d Retail Food Environment Index Score webpage. Available at: <http://www.thehdmt.org/indicators/view/248>.



Recommendations

Recommendation 5A: Encourage grocery outlets – both smaller neighborhood markets and larger supermarkets – to build new stores near lesser-served sections of the study area.

Currently, there are a sizeable percentage of residents who have little or no easy access to a local grocery (See Figure L). As development is planned and density in the area increases, the market may support the opening of new shops that would expand access to these outlying corners of the study area.

Recommendation 5B: Partner with The Urban Farm at Stapleton to anchor a farmers' market (and possibly a small grocery) at the TOD Site.

The TOD Site would be an ideal place for a farmer's market as it is highly accessible via public transit. TUF could be the anchor business at a new Central Park Station farmers' market that operates on days other than the Stapleton Town Center market.

Recommendation 5C: Partner with Denver Urban Gardens to explore a community garden near the TOD Site and in surrounding neighborhoods currently without access to a garden.

DUG indicated interest in partnering on additional gardens if the community was fully supportive of the idea.

Recommendations 5D: Organize programming around nutrition and healthy eating educational programming at or near the station site.

Partnering with local organizations such as the be well Health and Wellness initiative of the Stapleton Foundation, Denver Health, schools and recreation centers could be a mutually beneficial community development opportunity.

Recommendation 5E: Discourage the establishment of fast food restaurants within the study area, especially near the TOD.

Garner community support to help limit the number of fast food establishments. The exclusion of fast food chains would help to encourage residents to choose healthier food options.

Recommendation 5F: Increase pedestrian and bicycle connectivity between neighborhoods, the station site and grocery stores – focusing on passage across arterials (Quebec Street) and highways (Quebec, I-70, I-270).

Connection improvements to existing stores from residential areas, and to and from the future station should be the focus. In the long run, there is potential to redevelop Quebec Square to be a more pedestrian friendly retail center, and in that case, there is the opportunity to reorient that land toward the station and make walking from the station to a grocery store safer and more attractive. See Questions 1 and 2 for specific connectivity recommendations.