ABSTRACT

The Central Corridor Neighborhood Study (CCNS) team at the University of New Mexico (UNM) is collaborating with the City of Albuquerque, other consultants, and community stakeholders to identify policy and design strategies to generate equitable, healthy and viable transit-oriented development. Albuquerque is one of few cities that are simultaneously updating the comprehensive plan, overhauling the zoning code, and building a public bus rapid transit project (the “ART”). This once-in-a-lifetime activity presents both amazing opportunities and deep concerns. How can this ‘value’ be translated into both quantitative and qualitative benefits?

The primary aim of the UNM study is to produce data and recommendations that could empower both public and private sector actors (especially residents) to organize and enact policies, programs, and projects toward equitable and health-promoting transit-oriented development (TOD). Using social determinants of health\(^1\) as a critical lens, the CCNS includes empirical research, analysis, community engagement, and design investigations. A key interest in our work has been to assess the potential impacts of and to inform these current city projects on the quality of life and health for low-income residents and people of color living and/or working along the Central Avenue corridor that will be served by ART.

Specifically, this paper focuses on four sub-domains that we believe are key to producing healthy and equitable places with TOD in Albuquerque:

- **Public Spaces:**
- **Housing Environments:**
- **Food Environments:**
- **Community Participation**, to strengthen capacity among community stakeholders for advocacy and action.

**Keywords:** transit-oriented development, equitable development, healthy communities

---

\(^1\) The Centers for Disease Control and Prevention (CDC) defines social determinants of health as social and physical “conditions in the places where people live, learn, work, and play”
This page left intentionally blank
CREATING HEALTHY AND EQUITABLE TOD IN ALBUQUERQUE, NEW MEXICO

The Central Corridor Neighborhood Study (CCNS) team at the University of New Mexico (UNM) is collaborating with the City of Albuquerque, other consultants, and community stakeholders to identify policy and design strategies to generate equitable, healthy and viable transit-oriented development. Coincident with construction of a bus rapid transit project along Route 66 in Albuquerque, known as the Albuquerque Rapid Transit system (or “ART”). Albuquerque is one of few cities that are simultaneously updating the comprehensive plan, overhauling the zoning code, and building a public transit project. This once-in-a-lifetime comprehensive project presents both amazing opportunities and some concerns about economic development and community benefits. An economic impact study conducted by the Center for Neighborhood Technology (CNT), *The Scale of the Prize* (commissioned by the City of Albuquerque) concluded that the ART project could catalyze as much at $2 billion in real estate and economic development, along with $1 billion in household savings, along the transit corridor (2016). How can this ‘value’ be translated into both quantitative and qualitative benefits?

The primary aim of the UNM study is to produce data and recommendations that could empower both public and private sector actors (especially residents) to organize and enact policies, programs, and projects toward equitable and health-promoting transit-oriented development (TOD). Using social determinants of health\(^2\) as a critical lens, the CCNS includes empirical research, analysis, community engagement, and design investigations. A key interest in our work has been to assess the potential impacts of and to inform these current city projects on the quality of life and health for low-income residents and people of color living and/or working along the Central Avenue corridor that will be served by ART.

BACKGROUND

Figure 1: ART system with stations highlighted

The City of Albuquerque is poised for significant growth and change in the next ten years and beyond, at least partially due to these recent public investments:

- An updated Comprehensive Plan for Albuquerque and Bernalillo County, ABC-Zone

\(^2\) The Centers for Disease Control and Prevention (CDC) defines social determinants of health as social and physical “conditions in the places where people live, learn, work, and play”
• A new zoning code, the Integrated Development Ordinance (IDO)
• A bus rapid transit system being constructed along Central Avenue, the Albuquerque Rapid Transit (ART)

How will neighborhoods—residents and business owners—be impacted? How can we leverage this investment to create value and community benefits, improve social equity, and improve the quality of life and health along the corridor? How can community members play a meaningful role in shaping the neighborhoods they want and need?

The Central Corridor Neighborhood Study (CCNS) conducted at the University of New Mexico (UNM) seeks to explore these questions, as part of the City of Albuquerque’s Transit-Oriented Development planning initiative (TOD Study). A recent study conducted by the Center for Neighborhood Technology (CNT), *The Scale of the Prize* (commissioned by the City of Albuquerque) concluded that the ART project could catalyze as much at $2 billion in real estate and economic development, along with $1 billion in household savings, along the transit corridor (CNT, 2016). The CCNS asks, “how/can this ‘value’ be translated into both quantitative and qualitative benefits for current and future residents and business owners?”

Working with stakeholders, students, volunteers, and faculty, our focus has been on people living and working in neighborhoods adjoining the Central Corridor—products of this study include “community portraits” of current conditions; identifying opportunities to maximize positive impacts (like better access to healthy foods, safe recreation, better quality housing at prices affordable to most); identifying risks for negative impacts (like involuntary displacement of business and/or residents); and identifying policy and design strategies for realizing these community benefits and mitigating risks.

**METHODS**

The UNM CCNS research team used social determinants of health to select, gather, and analyze data, and then identify promising practices for additional improvements and/or development policy that we think will 1) improve quality of life, health and wellbeing in neighborhoods proximate to ART station areas, 2) welcome and shape new development, and 3) provide neighborhood stability in the context of change. The study also reviewed recent literature in transit-oriented development, equitable development, and designing healthy communities to inform our thinking.

**Using the HCAT.** The CCNS starts by looking at the variation in social and built environment determinants among corridor neighborhoods to help identify those areas that would most benefit from additional public policy and investment to complement the regulatory and transit investments, toward creating healthy and equitable TOD. The Healthy Communities Assessment Tool (HCAT, n.d.) provides a starting point for comparison of available data.

The study emphasizes indicators that correlate strongly with the built environment, and are tracked in the Healthy Communities Assessment Tool (HCAT, n.d.) prepared for the City of Albuquerque’s 33 neighborhoods (statistical small areas) by the US Department of Housing and Urban Development (HUD). In addition to Demographic and Contextual factors, the HCAT rates and ranks neighborhoods along 60+ indicators, organized into ten domains:

1. Economic Health
2. Educational Opportunities
3. Employment Opportunities
4. Environmental Hazards
5. Health Systems and Public Safety
6. Housing: age, excessive cost burden, vacancy rates
7. Natural Areas: parks and open space, tree cover
8. Neighborhood Characteristics: food deserts, offsite alcohol outlets, walkability
9. Social Cohesion: voter participation, residential mobility, organizations
10. Transportation: commuting, transit accessibility, costs, pedestrian connectivity

Over a four-month period secondary source data was gathered, mapped (in ArcGIS) and analyzed to identify disparities in health outcomes and social and physical determinants of health. Simultaneously (and ongoing), we discussed the issues with stakeholders—we hosted a half dozen Community Advisory Forums, participated in Community Action Forums and other sessions organized the city’s TOD consultants, and attended community meetings. Further, graduate students literally walked the streets, documenting conditions and (inevitably) talking with residents and business owners. By the time this paper is presented at the 2017 International Making Cities Livable Conference, we will have hosted three Community Action Forums to gain further insights on our focus topic areas.

HEALTHY PLACES AND EQUITABLE TOD: LITERATURE REVIEW

* Insert Figure 2: Diagram of intersecting theory/principles

**Built environment focus.** There are conceptual and tangible differences between “interventions” in public health and interventions in the built environment. Public health research often depends on limited trials of interventions under controlled conditions, while built environment interventions may be more difficult to develop and assess, especially as regards “confounding factors.” Changes to the built environment always involve confounding factors—it’s difficult to determine the impacts of the change with great certainty. That said, we are able to look at some key concepts in the CBPR literature that apply to the community engagement aspects of built environment research and practice, and identify concepts in design and planning literature that appear to be compatible with the CBPR approach and core aims, and are particularly relevant to the Central Corridor Neighborhood Study:

- Building relationships in an atmosphere of Mistrust
- Cultural Humility to decolonize research
- Reflection and Reflexivity
- Co-creating and Sharing Results

HUD defines Healthy Community as “a place for people to live characterized by a range of factors that positively impact residents' social, environmental, and economic well-being, including: access to parks and green spaces, neighborhood connections, educational and employment opportunities, adequate and affordable housing, and availability of transit services.” (HCAT, n.d.)

The Centers for Disease Control and Prevention (CDC) defines Healthy Places as “those designed and built to improve the quality of life for all people who live, work, worship, learn, and play within their borders—where every person is free to make choices amid a variety of
healthy, available, accessible, and affordable options.” Further, the CDC’s Healthy People initiative identifies the following examples as physical determinants (CDC.gov, n.d.):

- Natural environment, such as green space (e.g., trees and grass) or weather (e.g., climate change)
- Built environment, such as buildings, sidewalks, bike lanes, and roads
- Worksites, schools, and recreational settings
- Housing and community design
- Exposure to toxic substances and other physical hazards
- Physical barriers, especially for people with disabilities
- Aesthetic elements (e.g., good lighting, trees, and benches)

**Equitable Transit-Oriented Development.** The promise of combining principles (and resources) for transit-oriented development, equitable development, and public and population health is to create healthy and equitable communities, in which people of a range of backgrounds and income levels can find and afford a quality of life that supports their physical and mental wellbeing. The kind of investment that follows investment in public transit (including the ART) can help realize this promise in cities like Albuquerque.

According to PolicyLink, “by facilitating public transportation use, TOD can reduce dependence on fossil fuels, lower residents’ transportation costs, promote walking and health, ease traffic congestion, and improve environmental quality.” (PolicyLink, 2008). However, they also note that TOD does not automatically lead to healthy and equitable outcomes, pointing to the following strategies to foster equitable TOD:

- Explicit equity goals in overall plan or vision, including affordable housing and/or new jobs for local residents.
- Comprehensive research to establish existing conditions and measurable goals.
- New zoning that takes into account existing conditions—along with higher density, mixed use, and reduced parking—within the TOD vision.
- Comprehensive transit service plan, to connect with new transit service demands and needs of residents.
- Public investment in improvements in TOD and surrounding infrastructure.
- Meaningful community voice and engagement in planning and decision-making (through participation, appointments on boards/councils, etc.)

PolicyLink’s strategies toward equitable development are complemented by the concept of targeted universalism, attributed to John Powell (Powell, Menendian & Reece, 2009). As described by the National Equity Project:

In its simplest definition, targeted universalism alters the usual approach of universal strategies (policies that make no distinctions among citizens’ status, such as universal health care) to achieve universal goals (improved health), and instead suggests we use targeted strategies to reach universal goals…A targeted universal strategy is one that is inclusive of the needs of both the dominant and the marginal groups, but pays particular attention to the situation of the marginal group. (National Equity Project, accessed 26Jan17)
HEALTHY AND EQUITABLE TOD IN ALBUQUERQUE, NM

* Insert Figure 3: Equality ≠ Equity

**WHAT WE’VE LEARNED**

Three of the five community areas (statistical Small Areas) abutting the ART line along Central Avenue fall into the “high priority” tier for intervention (ranking low among the 33 identified communities of Bernalillo County in social determinants). *See Figure 2 for comparison of priority areas by community.*

- Central Coors W (Atrisco), #29 (high priority)
- Lomas Broadway (Old Town/Downtown), #28 (high priority)
- Lomas Girard NE (University), #10 (low priority)
- Lomas San Mateo NE (Nob Hill), #17 (medium priority)
- Central Pennsylvania NE (Louisiana), #32 (high priority)

These stops are not scheduled for infrastructure improvements in phase 1:

- S Ninety-Eighth W
- Central Juan Tabo SE

The Nob Hill and University areas perform strongest in the HCAT among the Central corridor communities, at #10 (low priority) and #17 (medium priority) respectively. That said, both neighborhoods score and rank low in two domains: housing and exposure to environmental hazards.

* Insert Figure 4: HCAT Indicators Summary Chart

The Atrisco, Old Town, and International District communities rank at the bottom of Albuquerque’s 33 neighborhoods in combined indicators for healthy communities. As such, they fall in the highest priority tier for intervention and improvements. HCAT indicators in all four focus communities rank low for housing, especially regarding age of housing and vacancy rates. The Atrisco/West and Louisiana/ID communities rank low for Healthy Systems and Public Safety, citing the indicators of violent crime, school truancy, and low birth weight. A UNM traffic study (UNM GSP, 2012) and the Health in All Policies study (HIAP, 2014) also indicate high counts of pedestrian- and bicycle-involved vehicle crashes in the International District.

* Insert Figure 5: HCAT Priorities Chart

Patterns of health outcomes and community conditions reinforce many of our hypotheses, based on social determinants of health theory, along with contemporary theory about race, gender and privilege.

- According to anecdotal evidence, residents from corridor communities complain about the lack of genuine community involvement they’ve experienced in the processes in developing the new comprehensive plan (ABC-Zone), the proposed new zoning code, Integrated Development Ordinance (IDC), and the ART.

- Racial Diversity. Station area communities with greater proportion of ethnic minorities and lower SES (International District and Atrisco neighborhoods) experience higher rates of chronic disease, specifically heart disease, childhood obesity, and childhood asthma. For example, there is a high rate of asthma for children living. *Asthma rates for children living in the 87108 zip code were 179% higher than the rest of Bernalillo County, and over 43% of households live below...*
the national poverty level (the ID ranks highest in the HCAT concentrated poverty indicator).³

- The majority of housing stock in all communities along the Central Corridor is comprised of single-family homes built prior to 1980, before laws prohibiting use of asbestos and lead were enacted. Further, older housing stock is less energy-efficient and likely to have more maintenance needs (e.g., roof replacement, major appliance replacement, etc.). 68-85 percent of homes in the corridor neighborhoods fall into this category.

- While Albuquerque as a whole experiences low levels of air pollution, neighborhoods along Central Avenue experience higher levels of traffic and related carbon emissions, affecting air quality at the neighborhood scale. The HCAT indicators for this are “residential proximity to traffic” and “school proximity to traffic.” This exposure is notably high (relative to the rest of the corridor, and other Albuquerque neighborhoods) in the International District and the University and Old Town communities, which rank 23, 31 and 33, respectively.

- The ART will replace the 766 and 777 articulated buses with electric-powered buses, often in dedicated lanes. This promises to improve reliability of service, and should reduce carbon emissions levels along Central.

- Tree canopy in the city has been decreasing, and is alarmingly low in the International District. Tree canopy affects urban heat island effect, which in turn can exacerbate asthma, allergies, and heart disease, and affects physical activity. At 8.6% and 8.4% coverage, Old Town and Atrisco are low priority for additional tree canopy, while the International District ranks #24 overall (at 6.5% coverage), and lowest among corridor neighborhoods.⁴

- The city’s highest rates and occurrences of pedestrian- and bicycle-involved vehicle crashes are concentrated along Central, in the Old Town, University, and International District (ID) neighborhoods. However, the HCAT tracks data for vehicle crashes only, finding a low rate in the ID. See Figure XX.

- Food is available in close proximity to residents in most Central Corridor neighborhoods, but varies greatly in quality and price. The University and Old Town neighborhoods host high levels of off-site alcohol sales outlets. Old Town and Atrisco neighborhoods have lowest level of access to healthy food outlets.

RECOMMENDATIONS FOR HEALTHY AND EQUITABLE TOD

The principles for building healthy places help establish strategies for the outcomes of transit-oriented development. The principles for equitable development and targeted universalism suggest that interventions and investments be tailored to the needs and resources of individual


⁴ The HCAT uses the USGS’s National Land Cover Dataset (NLCD).
communities and neighborhoods. Those with the greatest need should receive more attention and assistance.

Given our findings and goals for community health with equity, the study is now focused on four sub-domains that we believe are key to producing healthy and equitable places with TOD in Albuquerque:

- **Community Engagement**: to strengthen capacity among community stakeholders for advocacy and action.
- **Public Spaces**: to support social interaction, active living, and resilience
- **Housing Environments**: to support stability and affordability
- **Food Environments**: to increase access to affordable healthy food

**Better community engagement with Community-Based Participatory Research**

The CCNS research is now in its third phase, with the primary objective of identifying promising practices for built environment interventions in three domains: public spaces (streets and publicly-owned and accessible spaces); food environments (food security and access to healthy foods); and housing environments (stability, quality and access). Here is where we hope to engage community stakeholders in more meaningful and effective ways. Referring to PolicyLink’s strategies for equitable TOD, adding/adopting a community-based participatory approach to this work will help:

- Develop explicit equity goals in the vision for each realm.
- Foster meaningful community voice and engagement in planning and decision-making for future research activities.
- Reviewing and analyzing secondary (and primary) source data
- Identifying promising practices and creating tool kits in the focus realms: food, housing, public realm.

We’ve relied on the research team’s understanding of the combined and intersecting principles/theory of targeted universalism, design and planning for healthy communities, and transit-oriented development to identify potential interventions (promising practices) for equitable and healthy development. Using a CBPR approach, we would/should contribute these ideas to discussions with and ideas from community partners. Aims for community engagement in the next phase(s) of the CCNS:

- Enlarge the research team to include community partners and strengthen community agency in creating healthy and equitable TOD.
- Co-creating research questions, methods and findings with community partners.
- UNM becomes a research resource, rather than a principal investigator, toward building community capacity for advocacy and action.

The Community-Based Participatory Research (CBPR) approach has much to offer the Central Corridor Neighborhood Study, which is already inclined toward the goals of CBPR for collaboration and community capacity-building for action. The university research team is limited in its power to act on behalf of corridor residents, but we do have discipline-specific skills and knowledge to support the longer-term activities of community stakeholders. A CBPR approach can help transfer/share ‘ownership’ of the work to community, through meaningful engagement and research partnerships, through strategies outlined here:
• Cultivate and improve relationships and partnerships: create a Community Advisory Committee (CAC), expand the research team to include indigenous voices and knowledge. A CAC could help assess appropriateness for the affected communities, and to establish priorities for intervention.

• Host Community Action Forums using Open Space Meeting Technology, a format developed by Michael Herman (OpenSpaceWorld.org), adapted as needed to maximize equity and inclusion.

• Co-create content with community stakeholders, identifying priorities and promising practices for further study.

• Share research results in an open and accessible manner—use StoryMap application on the ArcGIS platform, develop the ‘stories’ (sharing and interpreting data) with community stakeholders.

Strategies to Create Healthier Public Spaces

Improve safety + walkability to support and encourage active living

Improve public parks to increase safety and opportunities for active recreation

Retrofit streetscapes for greater accessibility, to accommodate active transportation, increase shade and lighting, and responsibly manage stormwater

Where?

• Areas with high incidence of crashes with pedestrian and bicycle injuries
• Paths leading to ART station stops
• Crossings to popular destinations (new library in the ID, Expo NM & flea market)
• International Trail in the ID

Why?

• To increase safety and sense of safety
• To encourage active transportation and recreation
• To increase tree cover, reduce heat island effect
• To mitigate/manage stormwater and reduce maintenance needs
• Health Impacts: pedestrian and bike injury, crime/safety, comfort, asthma, heart disease, obesity...and more!
• Clean water; recharge the aquifer

Promising practices

• Complete Streets
• Low-impact design
• Safe and beautiful street crossings
• Bike facilities (buffered lanes, boulevards, etc)
• Universal Design (accessibility for limited mobility, visual and/or hearing impairment, reaction time/perception, youth, seniors)
• Street Tree planting project
• Grassroots lighting program on private property (IDHCC)
• Painted crosswalks and/or intersections
HEALTHY AND EQUITABLE TOD IN ALBUQUERQUE, NM

**Housing: strategies for equitable revitalization without gentrification**

Track neighborhood change

Ensure people can stay put

Increase affordable and fair housing along the corridor

Support local businesses and business owners

**Where?**

- Especially in University and International District, where housing cost burden is high for the lowest income Households. Maybe also in Old Town.

**Why?**

- To stabilize residents and families in existing housing
- To offer improved housing conditions within same neighborhood—mitigate hazards (lead, asbestos) and improve energy + water efficiency
- Rehabilitate existing housing, for greater energy efficiency, encapsulate hazards (lead, asbestos)
- Home and yard maintenance—training, gardens, Urban sharecropping? River Cottage, in the UK
- Grants for low-income homeowners, property owners, businesses
- To make room for growth near ART stops
- To take student housing pressure off single-family neighborhoods
- To offer a range of choice in housing types, size, and price point
- To mitigate homelessness? (housing first model)

**How?**

- New multi-family, mixed-income, infill development, compatible with surrounding neighborhood character and scale
- New SFR or duplex infill.
- SDU’s / ADU’s (Moises)

**Why?**

**Preserve neighborhood character with context-sensitive design**

- Community Benefits Agreements
- Exactions
- LEED, LID
- Public Conveniences (toilets)
- Social Services at/near Transit Stops
- Art and information at ART station stops
- ART platforms as stages during events like Summerfest
- Specialty food markets
- Focus increased density along Central Av corridor, within ¼ mile of ART stops
- Transitions between zones (i.e., “Transects”)
- First and last mile: connectors, streetscape
- Connecting destinations—e.g., BioPark–Old Town–Zoo
APPENDIX

Selected maps for each of four focus communities (if there’s room):

- Atrisco
- Old Town
- University
- International District
References


Center for Neighborhood Technology (2016) The Scale of the Prize.


Healthy and Equitable TOD in Albuquerque, NM

Illustrations / Figures

Figure 2: Diagram of intersecting theory/principles

Figure 3: Equality ≠ Equity
HEALTHY COMMUNITIES ASSESSMENT

**Figure 4**: HCAT Indicators Summary Chart

**Figure 5**: HCAT Priorities Chart