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THE SIMON/TANGER OUTLET MALL HEALTH IMPACT ASSESSMENT: RESULTING IN ACTIVE TRANSPORTATION THROUGH COMMUNITY CONNECTIVITY

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Abstract:

Background: One of the goals of the Health Impact Assessment (HIA), was to assess potential health implications in providing opportunities for active transportation to the Simon/Tanger Outlet Mall in Berkshire Township, Delaware County, Ohio by community connectivity.

Methods: This case study was conducted by using the Health Impact Assessment model and incorporated community input through survey methodologies, assessment protocols, best practices, and peer-reviewed literature.

Results: Many of the risk factors for chronic diseases can be traced on how communities have been built. Several pathways have been identified in the research linking built environments with travel patterns, physical activity levels, body mass index, and associated health outcomes. Residential density, land use mix, and neighborhood connectivity have all been consistently associated with multiple outcomes related to good health. By making neighborhoods more walkable, we not only can create converging health benefits, but environmental benefits and more equal access to jobs and opportunities. Emerging research on the presence of sidewalks, cycling infrastructure, street design, and building placement and site design have been linked to various health and health-related travel behavior outcomes (Frank 2008).

Discussion: Continuing modifications to the built environment provide opportunities, over time, to institute policies and practices that support the provision of more activity-conducive environments, which improve the community's health.



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Introduction

The purpose of the Health Impact Assessment (HIA) was to assess the potential health impacts to community health of the development of the Simon/Tanger Outlet Mall in Berkshire Township, Delaware County, Ohio. Convened and facilitated by Delaware General Health District, and the Berkshire Township Residents’ Advisory Group, the HIA process was supported by the HIA Steering Committee representing 17 organizations whose expertise assisted in providing input on best practices for community planning and design, economic and neighborhood development, open space, green space, active transportation including bicycle, and walking path infrastructure.

The Simon Property Group and Tanger Outlets will develop a 350,000-square-foot outlet center with

90 retail businesses on approximately 50 acres in Berkshire Township, Delaware County, Ohio. Plans also include additional future commercial and office uses on the remaining land.

The analysis of this HIA included the impact that the Simon/Tanger Outlet Mall project could have on the potential of creating opportunities for connectivity of the surrounding neighborhoods, schools, walking/ biking trails and to existing or planned parks, restaurants, office buildings and other planned development.

Methods

Undertaking a HIA followed the step-by-step model process as detailed below (see Table 1).

Table 1. The HIA Step process and methodology

HIA Step	Methodology
<p>Screening</p>	<p>The Health Commissioner and the author attended a Berkshire Township Residents’ Advisory Group meeting, and discussed how an HIA might help decision-makers further evaluate and prioritize the residents’ concerns about the Simon/Tanger Outlet Mall project and its potential impact on community health and make recommendations to mitigate or minimize negative health impacts.</p> <p>The HIA project team determined that an HIA would provide an opportunity to examine the potential health impacts of the proposed Premium Outlet Mall development and alternatives to help further refine and improve infrastructures and to help the township possibly prioritize funding for projects that provide health as well as environmental and economic benefits.</p>
<p>Scoping</p>	<p>The scoping phase of this HIA was used to gain an understanding of what issues were most important to the community concerning the development of the Premium Outlet Mall. The scoping process was finalized during a meeting where 25 stakeholders and 7 Berkshire Township residents met with the Director of Development for the Simon/Tanger Outlet Mall. The purpose of the meeting was to give the community an opportunity to voice their concerns and to make recommendations to improve the infrastructure that supports active transportation, decreases traffic congestion, and other improvements to the built environment. The scope of this HIA was determined by the entire group based on the discussions held at the meeting.</p>

Assessment	The assessment process was to understand the impact of the development of Simon/Tanger Outlet Mall on community health. Data was collected that included the amount of minutes per day of physical activity engaged by adults in Delaware County, and adult and child chronic disease rates in Delaware County. This information was obtained from the Delaware County Adult Risk Behavior Factor Surveillance Survey and the Youth Risk Behavior Factor Surveillance Survey. Many literature sources on the built environment and physical activity were reviewed. All sources supported the fact that the built environment impacts community health. In addition, the assessment included a pedestrian and bike infrastructure index scoring. The assessment portion also included prediction models that described the economic benefits of health outcomes by increasing walkability and bikeability through a study conducted by Boarnet, Greenwald and McMillan in 2008.
Recommendations	The Trans Associates Engineering Consultants, Inc. recent Traffic Impact Study prepared for Simon Property Group and Tanger Factory Outlet Centers, Inc., based conclusions and recommendations to improve roadway design and allow for increased safety for motorists, bicyclists, and pedestrians. The recommendations would also increase opportunities for physical activity that will prevent or reduce chronic diseases should the residents choose active transportation options.
Reporting	The findings and recommendations of this HIA were presented and discussed with the community stakeholders, Simon Properties' developer, the District Advisory Council of Delaware County, and the Berkshire Township Residents Advisory Group. An article about the HIA appeared in the Delaware Gazette and the Urban Studies Journal.
Monitoring/ Evaluation	<p>The following evaluations were completed:</p> <ul style="list-style-type: none"> • A survey of the stakeholders was conducted to determine how useful the HIA information was in their decision-making. • The number of future land-related projects that consider the HIAs in their decision-making process was collected. • A evaluation of the number of recommendations considered and how it influenced physical activity, the baseline community health status, and community connectivity. <p>Monitoring was intended to track the impacts of the HIA on the decision-making process and decision, the implementation of the decision, and impacts of the decision on health determinants.</p>

Results

With the potential creation of a park, trails, green space and providing connectivity surrounding the outlet mall, the number of days residents could engage in physical activity could increase. Increasing connectivity for pedestrians and bicyclists makes walking and bicycling more attractive choices, enabling people to increase their trips by these active modes. This should increase the health benefits associated with greater levels of physical activity and reduce the costs and negative impacts associated with motor vehicle travel. It is also expected that there is improved mental health indicators with improved access to other regional destinations and associated activities.

Health Impact Assessments make evidence-based recommendations to promote positive health outcomes and minimize negative consequences. One of the scopes of this HIA is community connectivity. Since the scope is very broad, these recommendations not only included the area being developed for the Simon/Tanger Outlet Mall, but also included anticipated future development within the surrounding area, and recommendations are multi-jurisdictional. The recommendations, strategies, and evidence are divided into these categories:

- Policy Adoption
- Promotion of Active Transportation
- Increased Connectivity
- Enhanced Walkability/Bikeability

POLICY ADOPTION

To achieve walkable communities, pedestrian considerations and provisions and policies should be fully integrated into ongoing planning activities (comprehensive planning, zoning regulations, site plan ordinances and review, street design standards). The planning process should increase sustainable mobility. Safe and convenient bicycling and walking will be the

cornerstone of this mobility. Effective pedestrian-oriented land-use and transportation systems planning will have a significant impact on pedestrian travel, it is recommended that the revised comprehensive plan include options for residents to walk or bike to many of their destinations (connectivity); and, provisions for children to walk or bike to their schools and to nearby parks.

The plan should encourage the adoption of street design standards that give priority to safe, easy access for pedestrians in residential and commercial areas, as well as in areas near schools, parks, dining, shopping, and other public places. Such things as vehicle speed, number of lanes, overall roadway width, location and width of sidewalks, and intersection crosswalks should be designed for safety to encourage walking.

Additional plan and policy recommendations include: 1). A Bike-Transit Integration Study; 2). Improved countywide bike-friendly policies along with marketing and engineering efforts; 3). Adoption of a Complete Streets Policy.

PROMOTE ACTIVE TRANSPORTATION

1. **Accommodate all roadway users with comprehensive street design** measures such as “complete streets,” including sidewalks, bicycle lanes, and share-the-road signs that provide safe and convenient travel for all users of the roadway. All new roads entering the outlet mall should have sidewalks installed on both sides of the road and wide enough to accommodate people walking in groups or pushing strollers and individuals with disabilities. A “furnishing zone” should be added to each sidewalk to provide a buffer between pedestrian and street traffic, which would include pedestrian scale street lighting.
2. **Provide streetscape amenities** such as benches, landscaping, lighting, and public art. Amenities are placed to not block or narrow sidewalks

particularly for the visually impaired, older adults, people pushing strollers, and individuals with disabilities.

3. **Encourage wayfinding with signs, maps, and landscape.** Cues to direct pedestrians and bicyclists to the most direct routes to the outlet mall.
4. **Provide bicycle parking at workplaces and transit stops.** Designate bicycle-specific crossings and signals to organize the movement of pedestrian, cyclists, and motorists at the busy intersection into the entry of the mall. Offer a buffer between bicyclists and cars to increase safety.
5. **Ensure that site design, parking, and fences do not preclude** safe and comfortable pedestrian connections to future development.
6. **Support physical activity among people with disabilities and special needs** such as elderly and handicapped by making all new roads and paths universally accessible.
7. **Provide safe and convenient bicycle and pedestrian connections** such as a trail or easement to dedicated green space and potential public parks and recreation areas.

INCREASE CONNECTIVITY

Connectivity of walking and bicycle infrastructure is associated with both increased walking and increased transportation walking (Berrigan, Pickle, & Dill, 2010). Connectivity refers to, in this context, as the number of blocks and intersections, as well as the presence of walking/biking infrastructure linking different destinations, mostly because they assist in providing more direct routes for accessing locations. Increasing the connectivity of the street network is an important component of this HIA.

1. Connect existing neighborhoods and greenways by installing sidewalks, bike lanes, and provide connection paths to existing trails. The Ohio to Erie

trail has been partially completed in Galena and will eventually connect to Sunbury. This is a great opportunity to connect this new development with eastern Delaware County.

2. New development and redevelopment should provide pedestrian and bicycle connectivity through walkways, bike lanes, and multi-use paths between individual development sites to provide alternative means of transportation in this area to major destinations such as transit stops, schools, parks, food, and other shopping centers.
3. Recommend policies that maximizing the density of neighborhoods requiring new developments be mixed-use and high density with good connectivity by incorporating active transportation infrastructure in neighborhoods. These kinds of changes to the built environment will make the areas more conducive to active transportation, which will have positive health benefits through increased physical activity, decreased air pollution, and reduced car collision fatalities for drivers, pedestrians, and bicyclists.
4. Ensure that new parks are easily accessible by foot, bike, or public transit from neighborhoods that are currently underserved by parks. Create greenways/pedestrian and bicycle friendly routes and increase transit service, especially on weekends and holidays, from underserved neighborhoods to the site.
5. A needs assessment of existing neighborhoods in Berkshire Township should be conducted prior to updating the Berkshire Township Comprehensive Plan to determine park needs, walkability issues, and other connectivity needs of the residents.

ENHANCE WALKABILITY/BIKEABILITY

The placement and proximity of destinations is one of the most important factors in determining how much people walk for transportation. The presence and convenience of utilitarian destinations has been associated with walking for transportation, especially

destinations such as grocery stores, restaurants, post offices, and banks. A national survey of more than 12,000 adults found that the most common purpose of walking trips (38%) was for personal errands, such as going to the grocery store. Another important factor is the density of housing, which can increase the number of people who can live within a short distance (generally $\frac{1}{4}$ to $\frac{1}{2}$ mile) of commercial, retail, school, work, or transit-stop destinations. Higher density at the parcel level has been associated with odds of walking frequently for transportation.

1. Follow development and redevelopment practices that support walking, biking and transit use.
2. Consider changing minimum parking requirements. Consider alternative parking provision strategies.
3. Allow zoning/re-zoning that facilitates mixed-use development.
4. Incentivize mixed-use development in Berkshire Township.
5. Provide interconnected streets, pedestrian sidewalks and other pedestrian facilities to increase walking.
6. Linkage to a variety of land use/regional connectivity. Provide pedestrian and cyclists infrastructure to access shopping, transit, schools, parks, offices and other communities in this region of the county.
7. Coordinate between jurisdictions. Close coordination with adjacent jurisdictions to meet future pedestrian and cyclists' connectivity infrastructure.
8. Accessible and appropriately located transit. Provide transit facility close to commercial area to encourage transit usage, and include shelter, benches, and bike racks.
9. Pedestrian-supportive land-use patterns. Use a grid street layout with short blocks in commercial area to enhance pedestrian mobility.

Discussion

Neighborhood design can also significantly impact physical activity and health, especially through features such as land use mix, walkability, bicycling infrastructure, parks, and open space.

The most consistent characteristics positively associated with physical activity were population density, land use mix, and distance to nonresidential destinations. Conversely, a study on the association between time spent in cars, physical activity and obesity found that each additional hour spent in a car per day was associated with a 6% increase in the likelihood of obesity. Street design facilitates or hinders walking and cycling. Other environmental features influencing mode of transport choice include the availability of cycle and pedestrian lanes, preferably separated from other road users and other measures to calm motorized traffic (Lee & Moudon, 2006).

Land use practices that isolate employment locations, shopping and services and housing locations can encourage car use, particularly where public transport options are not available or attractive alternatives (Heath et al., 2006). Where urban development is unplanned or uncontrolled and spreads out into areas adjoining the edge of a city – commonly known as urban sprawl – car dependency is likely to be increased (Heath et al., 2006). Evidence suggests that people living in sprawling communities drive three to four times more than those who live in efficient, well-planned areas. Compared to those living in compact areas, people living in sprawling areas walk less for exercise, have higher weight levels and are more likely to have high blood pressure (Dannenberg et al., 2003).

Walking or biking for utilitarian trips is an opportunity to incorporate routine physical activity into daily living. There are multiple environmental barriers that both children and adults face to achieving recommended

levels of physical activity including: limited discretionary time, barriers to accessing parks and recreational areas, reductions in school physical education programs, and sidewalks, streets, or outdoor spaces that are not or are not perceived as safe to use. Encouraging and facilitating active transportation – walking or cycling as a form of travel for utilitarian trips – is a key strategy for increasing daily physical activity. Built environmental factors that are associated with active transportation via walking and cycling include increased resident and employment density, greater diversity of land use mix (e.g., residential land use near retail land uses), shorter distances destinations, and street design factors (e.g., grid street networks, the presence of sidewalks) (Sustainable Communities Index, 2018).

Evidence that physical activity has multiple health benefits is unequivocal. A comprehensive literature review documents the particularly strong evidence for a causal relationship between activity level and enhanced cardiorespiratory and muscular fitness, cardiovascular and metabolic health biomarkers, bone health, body mass and composition in children and youth. In adults and older adults, strong evidence demonstrates that, compared to less active counterparts, more active men and women have lower rates of all-cause mortality, coronary heart disease, high blood pressure, stroke, type 2 diabetes, metabolic syndrome, colon cancer, breast cancer, and depression. For older adults, strong evidence indicates that being physically active is associated with higher levels of functional health, a lower risk of falling, and better cognitive function. A study conducted in Atlanta, Georgia encourages walking and was associated with a 12% reduction in the likelihood of obesity (City of New York, 2014).

This research reported reasonably consistent findings specifically for the health benefits of walking – showing a consistently lower risk of all-cause mortality for those who walk two or more hours per week. A 2011 report issued by an international group of experts using

data from Copenhagen documents similar all-cause mortality benefits from regular cycling for commuting controlling for socio-demographic and leisure time physical activity (World Health Organization, 2011)

In 1996, commissioned as a response to the rising levels of obesity in the U.S., the U.S. Department of Health and Human Services Surgeon General’s report on physical activity and obesity was the first to bring to the forefront the positive health outcomes of physical activity. Based on this and a number of other comprehensive reviews of the literature, engaging in physical activity affects a variety of health outcomes including: All causes of mortality; Cardiovascular disease; Diabetes mellitus; Cancer (colon and breast); Hypertension; Bone and joint diseases (Osteoporosis and osteoarthritis); Mental health (Department of Health and Human Services, 1996).

The U.S. Surgeon General issued a report confirming what is generally known: Americans aren’t getting enough exercise (U.S. Department of Health and Human Services, 1996). The American Heart Association has listed physical inactivity as the fourth major risk factor associated with chronic disease (Haskell et al., 2007). Of great concern to public health officials in all parts of the United States, the trend of physical inactivity is getting worse: a 2009 summary by the Robert Wood Johnson Active Living Research program revealed that fewer than 50% of children and adolescents and fewer than 10% of adults in the U.S. achieve public health recommendations of 30 to 60 minutes per day of moderate- to vigorous-intensity physical activity on 5 or more days of the week (Designing For Active Living, 2017).

Physical activity is associated with all-cause mortality in an inverse dose-response fashion; increasing levels of physical activity being associated with decreasing levels of mortality. In addition, studies have found that physical activity has reduced caused-specific mortality,

including deaths from cardiovascular disease. In addition, physical activity is associated with lowered risk of colon cancer and breast cancer in women (American Society of Clinical Oncology, 2016).

Reviews of physical activity interventions suggest that people may be more willing and able to adopt moderate physical activities. Once such activities are set in motion they are more inclined to maintain them over time, as compared with other types of vigorous physical activity (HIA Guide, 2014).

Physical activities that are incorporated into daily life or have an inherent meaning, or lifestyle activities, rather than structured exercise regimens, are good strategies for increasing physical activity. Even relatively small changes in physical activity can translate into potentially large changes in weight trends at the population level (University of California, Los Angeles Health Impact Assessment – Clearinghouse Learning & Information Center, n.d.).

According to the Centers for Disease Control and Prevention, a total of 30 minutes of moderate to vigorous physical activity, which can be achieved via brisk walking or cycling on most days of the week, reduces the risk of cardiovascular diseases, diabetes and hypertension, and helps to control blood lipids and body weight. These benefits are conferred even if the activities are done in short ten- to fifteen-minute episodes. Thus, CDC's physical activity recommendations for adults call for at least 30 minutes of moderate to vigorous activity per day for health benefits.

An article in the Springer Journal describes the link between physical activity and health outcomes. An economic study, it revealed that urban design could be significantly associated with some forms of physical activity and with some health outcomes. After controlling for demographic and behavioral covariates,

the county sprawl index had small but significant associations with minutes walked. Those living in sprawling counties were likely to walk less, weigh more, and have greater presence of hypertension than those living in compact counties. Although the magnitude of the effects observed in this study was small, they do provide added support for the hypothesis that urban design affects health and health-related behaviors (Frank et al., 2005).

Another report from the peer-reviewed literature, *Linking Objectively Measured Physical Activity with Objectively Urban Form*, claims that there are now sufficient studies documenting associations between the built environment and physical activity and to consider land-use decisions as a critical public health issue (Humboldt, 2008). The built environment may be contributing to the obesity epidemic, because obesity is more prevalent in areas where land use makes it difficult to walk to destinations and where there are relatively few recreational resources (Frank et al., 2005).

Sufficient evidence was found in the literature that street-scale design and the land use policies to support physical activity in small-scale geographic areas are effective in increasing physical activity such as bicycle and pedestrian infrastructure (Heath et al., 2006).

In conclusion, according to the Centers for Disease Control and Prevention, environments that support walking, biking and transit trips as an alternative to driving have multiple potential positive health impacts. Quality, safe pedestrian and bicycle environments support a decreased risk of motor vehicle collisions and an increase in physical activity and social cohesion with benefits including the prevention of obesity, diabetes, and heart disease as well as stress reduction and mental health improvements that promote individual and community health. Environments that encourage walking and biking while discouraging driving can

further reduce traffic-related noise and air pollution – associated with cardiovascular and respiratory diseases, premature death, and lung function changes, especially in children and people with lung diseases such as asthma (Centers for Disease Control and Prevention, n.d.).

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