

## **Health Impact Assessment Key Recommendations of the Northeast Area Plan**

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### **Introduction**

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This Health Impact Assessment (HIA) evaluates the six key recommendations of the City of Columbus Northeast Area Plan with respect to physical activity in everyday life for the residents of the Northeast area. The purpose of the HIA is to evaluate the health impacts of a project and make recommendations to increase positive health impacts and mitigate negative health impacts. More information about the HIA process is contained in the Appendix.

The Northeast Area is part of the City of Columbus and Franklin County, Ohio. The area is entirely within the 43219 zip code, however, the zip code boundaries extend beyond the Northeast Area. The Northeast Area Plan may be found on the City of Columbus Planning Division website.<sup>1</sup> The purpose of this plan is to represent views of the stakeholders of the community; identify community strengths, assets, needs and concerns; establish goals for improving the neighborhood; establish priorities for capital improvements; and provide guidelines for new development.

Research has shown that physical activity prevents or decreases the risk of obesity, cardiovascular disease, diabetes, colon cancer, and premature death.<sup>2</sup> The 2002 Franklin County Health Assessment by the Osteopathic Heritage Foundation states that only 38.6% of Franklin County adults are meeting the Surgeon General's physical activity requirements of at least five times per week for at least 30 minutes per day. These statistics make it crucial to incorporate physical activity into our daily routine by encouraging walkable and bikeable destination places.

In the most recent comparable data of 2000, The Columbus/Franklin County Community Health Risk Assessment, the 43219 zip code is shown to have high obesity and diabetes compared to Franklin County as a whole. The numbers also show a higher proportion of adults reporting physical activity than Franklin County, possibly signifying willingness to be physically active as a part of everyday life (see Table 1.). Physical activity incorporated into everyday life constitutes walking, biking and or walking to public transit instead of using a car. Examples include daily trips to the grocery store, bank or to pick a child up from school.

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<sup>1</sup> <http://assets.columbus.gov/development/planning/NortheastAreaPlanmap.pdf>

<sup>2</sup> U.S. Department of Health and Human Services. (1996). Physical activity and health a report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

<b>Health Indicator</b>	<b>Northeast Area (defined by 43219 Zip Code)</b>	<b>Franklin County</b>
Adults overweight (BMI>25)	66-71.7%	56.4%
Adults that engage in moderate physical activity 30 minutes a day 5-7 times per week	53-62.7%	46%
Adults diagnosed with diabetes	8-14.7%	6%

**Table 1.** Health Indicators for the Northeast Area (defined by 43219 zip code) as compared to Franklin County

The health impact to be studied by this HIA is physical activity. The built environment can provide increased opportunities for walking and biking and therefore decrease motor vehicle use. The built environment is the human scale environment defined as highway and road networks, residential and commercial building and any other aspect of the environment that humans have built. It is important to note that when a more physically active lifestyle is adopted, a broader range of health impacts are achieved such as maintaining normal muscle strength, joint structure, and joint function; mood improvement; relief from symptoms of depression and anxiety; and decreased mortality.<sup>2</sup>

If the recommendations in this HIA are followed, it is predicted that walking and biking in the Northeast Area will increase while motor vehicle use will decrease.<sup>3</sup> In the long term, increased physical activity may become part of ones lifestyle. The long term outcomes will be an increase in physical activity levels; decrease in air pollution and ultimately a reduction of the overall rates of obesity and chronic disease. The built environment can foster safe pedestrian means and therefore a long term reduction in pedestrian crashes and fatalities can be realized even with more pedestrian and bicycle traffic on the road.<sup>4</sup>

## **Recommendations**

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### **Key Recommendation 1.**

#### **Mixed Use Center at Cassidy and Agler Roads**

The mixed use center is an excellent example of a place that fosters physical activity in everyday life. The neighborhood had two goals that are accomplished with this development. The first goal was to provide neighborhood retail and the second to create a sense of place for the neighborhood. Both of these goals encourage physical activity through close proximity of use and community support<sup>5</sup>. The site capitalizes on the existing recreation center and elementary and middle schools. Other aspects of the mixed use center that will promote physical activity include:

<sup>3</sup> See Appendix, Concepts Defined #1

<sup>4</sup> See Appendix, Concepts Defined #2

<sup>5</sup> See Appendix, Concepts Defined #3

- Utilization of the Urban Commercial Overlay (UCO) in development of commercial buildings. The UCO promotes pedestrian oriented development.
- Higher density which allows people to be close to shopping destinations.
- Pedestrian friendly linkages to Alum Creek and the bike trail.
- Encouraging the center to have neighborhood commercial, civic uses, office and high density residential. This will give residents multiple reasons to utilize the center and walk between destinations.

### **Key Recommendation 2.**

#### **Lower Density residential with high/medium density around mixed use center or subneighborhood centers.**

High/medium densities have a close proximity of destinations which promotes physical activity. Lower density residential can potentially decrease walkability features such as close proximity of destinations. Recommendations such as subneighborhood centers, context sensitive complete streets, connectivity, bike paths and public transit on major corridors encourage physical activity and must be implemented to foster physical activity as a part of everyday life.<sup>6</sup>

Standards such as the Urban Commercial Overlay and the Community Commercial Overlay should be enforced per the plan to promote pedestrian oriented development. Land Use section 3.20 Goals and Principles states that neighborhood-based services should be within ¼ to ½ mile of residents. This distance is a walkable/bikeable distance and is highly encouraged to increase physical activity.

### **Key Recommendation 3.**

#### **Design standards for new commercial and residential development**

Urban Design, Section 2.7 includes several critical components for safe pedestrian/cyclist access. Design features that create a sense of community and encourage people to walk and visit with neighbors have been shown to encourage physical activity.<sup>7</sup> Elements that are especially important in Section 2.7 include:

- Public accesses to open space/natural features (Residential Site Design)
- Front porches (Residential Building Design)
- Outdoor plazas/pedestrian spaces (Commercial Site Design)
- Commercial development should provide pedestrian access to adjacent areas (Roads, Pathways, and Parking)
- On street parking (Roads, Pathways, and Parking)

Additional recommendations include buildings on major corridors be two stories or higher to “frame” the street (Commercial Building Design) which also reduces vehicle speeds and creates a safer pedestrian environment.

Two recommendations that need special emphasis on the pedestrian include 1) the possibility of parking lots in front of buildings and 2) fences surrounding commercial development (Roads, Pathways, and Parking and Commercial Site Design). Access and aesthetics have been shown to increase physical activity. When a parking lot connects to

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<sup>6</sup> See Appendix, Concepts Defined #3

<sup>7</sup> See Appendix, Concepts Defined #3

the sidewalk, the pedestrian aesthetics are compromised and there is more potential for pedestrian/vehicle conflicts. Parking lots preferably should be behind the building, however, if a parking lot must be in front of a building safe pedestrian means such as crosswalks and sidewalks should be included from the street sidewalk to the front door. In the use of fences, pedestrian access through gates or gaps in the fence is necessary for walking and cycling access.

#### **Key Recommendation 4.**

##### **Context sensitive road improvements to ensure adequate auto capacity for future auto traffic and accommodations for pedestrians and bicyclists.**

This recommendation is an overarching recommendation that will be a catalyst for a shift in development style which will impact the entire neighborhood and adjacent areas. By implementing policies that provide safe means for pedestrians and cyclists, people are more likely to take advantage of opportunities for physical activity as a part of everyday life.<sup>8</sup> These sections discuss the opportunities for complete streets, context sensitive design, connectivity and alternative modes of transportation. This aspect of the built environment is crucial for public health because of the potential to reduce pedestrian/cyclist injuries and crashes through safety measures and encourage physical activity by providing the necessary connections.<sup>9</sup>

#### **Key Recommendation 5.**

##### **Continued development of Easton and Eastgate as job centers.**

These two developments are great access points for jobs in the neighborhood. As these job centers further develop, pedestrians, cyclists and transit users should be given a high priority. Land Use Section 3.20 sets the stage for ensuring people can access work without using cars in the Objectives and Strategies. A Strategy is to “enhance pedestrian, bicycle, transit and other connections between Easton and surrounding neighborhood areas and the Alum Creek Trail.” A real opportunity exists with the close proximity of these job centers and the neighborhood for physical activity as a mode of transportation to work.<sup>10</sup>

#### **Key Recommendation 6.**

##### **Interconnected system of greenways and trails/paths that build on the developing Alum Creek Trail and greenway. Tree preservation including the potential use of residential density transfer and bonus.**

Parks and open space have been shown to increase physical activity.<sup>11</sup> Additionally, pedestrian amenities such as tree cover make it more comfortable to walk and therefore encourage walking. The Northeast Area has Mock, Innis and Weiler Parks as well as Alum Creek and the bike trail which are great assets for passive and active recreation. Community Facilities and Services Section 6.53 states:

- Efforts should be made to ensure neighborhood parks have a “pedestrian friendly” zone within one half mile, particularly at intersections.

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<sup>8</sup> See Appendix, Concepts Defined #4

<sup>9</sup> See Appendix, Concepts Defined #2

<sup>10</sup> See Appendix, Concepts Defined #5

<sup>11</sup> See Appendix, Concepts Defined #6

- The city of Columbus Recreation and Parks Master Plan recommends that neighborhood parks be located within one-half mile of all neighborhoods.

Additionally section 6.56 Strategies recommends established pedestrian connections between neighborhood parks and adjacent neighborhoods, the Alum Creek Trail, and other parks and open space whenever possible. These policies and strategies are vitally important to increase physical activity through safe pedestrian means. Neighborhood residents must have safe, convenient and affordable access to opportunities for active and passive recreation.

## **Conclusion**

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It is important to note that when physical activity is increased by walking, biking and walking to public transit as the predominant travel option, several other positive results are achieved. These other results include:

- Reduction in air pollution: If 1% of auto travel is replaced by biking, motor vehicle emissions are reduced by 2-4%.<sup>12</sup>
- Mental health benefits: Heavy traffic is related to more stress and less social interaction.<sup>13</sup> Physical activity also improves mood and relieves symptoms of depression and anxiety.<sup>2</sup>
- Social capital: Children that cannot leave their home due to heavy traffic have few social contacts and less independence.<sup>14</sup> Traditional neighborhood residents that walk more report being more connected to community, more likely to know their neighborhoods and have more trust/faith in people.<sup>15</sup> Finally, residents that live in a neighborhood with a high degree of social capital/sense of community report higher ratings of perceived health and physical activity levels.<sup>16</sup>
- Environmental justice: When development allows safe, convenient pedestrian and bike access, barriers to grocery stores, clean air, parks, employment and educational institutions are broken. Access, and the availability of affordable transportation, are valuable to low-income residents in providing for their families.

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<sup>12</sup> Komanoff C, Roelofs C. The environmental benefits of bicycling and walking, National Bicycling and Walking Study Case No 15. =U.S. Department of Transportation; 1993 Jan 1. Report No.: FHWA-PD-93-015.

<sup>13</sup> Appleyard, D., & Lintel, M. (1972). The environmental quality of city streets: the residents' viewpoint. *American Institute of Planners Journal* 38: 84-101.

<sup>14</sup> Road traffic safety and health equity: a call to action. *Injury Control Safe Promotion* 2003 March 10(1-2): 9-10.

<sup>15</sup> Leyden, K.M., (2003). Social capital and the built environment: the importance of walkable neighborhoods. *American Journal of Public Health*. 93 (9), 1546-51.

<sup>16</sup> Kawachi, I., Kennedy, B.P., Lochner, K., & Prothrow-Stith, D. (1997). Social capital, income inequality, and mortality. *American Journal of Public Health*. 87 (9) 1491-8.

# Appendix

Methods

Concepts Defined and Cited

## **Methods**

### **Screening and Scoping**

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Health Impact Assessment (HIA) evaluates the health impacts of a project and makes recommendations to increase positive health impacts and mitigate negative health impacts. The Health Impact Assessment process begins with the Screening and Scoping processes in order to determine if a HIA should be performed and to identify the health impacts that should be addressed. The next steps are Assessment and Reporting which are contained in the main document.

The Screening process determines if the HIA will add value to the decision-making process. A defined policy, program or project is assessed for potential health impacts. There are tools which can assist in the decision of whether to perform the HIA. For example, an HIA should be performed if there are significant health impacts, decision makers will value the input, the resources are available for the assessment and the HIA can be completed in a timely manner. The purpose of this HIA is to assess the Northeast Area Plan. This HIA is the beginning of a working relationship between two City of Columbus departments, Columbus Public Health Healthy Places program and the Department of Development Planning Division. This HIA is a pilot for the review of neighborhood plans based on physical activity features. At this time, the forging of the relationship is just as important as the results of the HIA itself. For this reason, an extensive Screening process was not undertaken. The Northeast Area Plan was chosen because it was in the final draft form at the onset of the HIA process. However, because this HIA is a pilot HIA, the Northeast Area Plan was approved by City Council prior to the completion of the HIA.

The goal of Scoping is to identify issues that should be addressed in the HIA and describe key health demographics about the population affected. The Scoping process also identifies stakeholders and their roles, sets timelines and establishes responsibility for convening meetings and administrative tasks. For the purpose of this HIA the Scoping process only included the identification of issues and demographics. It was decided to omit the other steps due to this HIA being undertaken by two specific people as a partnership and as a pilot.

The mission of the Healthy Places program is to enhance healthy and active living by establishing development policies and practices to reduce negative health impacts and by creating places that foster physical activity as a part of everyday life. The Planning Division is interested in input from the health perspective and in creating opportunities for active transportation. The health impact of focus was chosen to be physical activity with the recognition that in order to be physically active in a community, people must feel safe; have safe pedestrian and cycling means; have traffic calmed; have clean air; have access to commercial destinations; have access to their friends' house; have parks; have schools. At this step in the HIA process, it was also decided to focus on the six key recommendations of the Northeast Area Plan. These recommendations provided the major concepts of the plan and opportunity for a wide variety of input.

## Concepts Defined and Cited

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### **1) Walking and biking will increase while motor vehicle use will decrease.**

A built environment conducive to walking, such as a traditional neighborhood has 2% higher bike travel and 4% higher pedestrian travel compared to suburban areas. Additionally, 32% more auto trips for all purposes were made in the suburban areas versus the traditional areas.<sup>1</sup> Traditional neighborhoods typically have a grid pattern, connecting sidewalks and a mix of uses. Individuals living in these neighborhoods make 2-4 more active transit trips, characterized by walking or biking, per week to neighborhood retail stores than those living in more suburban communities.<sup>2</sup> Finally, as density and land use mix increase, single occupancy vehicle use decreases and walking and transit use increase.<sup>3</sup>

### **2) The built environment can reduce injuries even with increased pedestrians and bicyclists.**

Studies have found that crashes between motorist and pedestrians or bicyclists are less likely when there are more people out walking and bicycling. Policies that increase the numbers of people walking and bicycling appear to be an effective route to improving safety of people walking and bicycling. For example, American pedestrians are about twice as likely to be injured as German pedestrians and four times as likely as Dutch pedestrians even though 22% of German and 18% of Dutch trips are made on foot compared to 6.3% in the United States. American cyclists are in even more danger. They are eight times more likely to be injured than German cyclists and about 30 times more likely than Dutch cyclists even though 12% of German and 28% of Dutch trips are made by bike compared to 1% in the United States.<sup>4</sup> Additionally, speed reductions of five km/h can reduce fatal pedestrian crashes by 30% including 10% of crashes that are avoided altogether.<sup>5</sup>

### **3) Design features that create a sense of community and encourage people to walk and visit with neighbors have been shown to encourage physical activity.**

Safer and a more aesthetic environment where people need to walk or want to walk has been shown to increase physical activity. Built environment modifications that increase

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<sup>1</sup> Friedman, B., Gordon, S.P., & Peers, J.B. (1994). Effect of neo-traditional neighborhood design on travel characteristics. *Transportation Research Record*, 1466, 63-70.

<sup>2</sup> Handy, S. (1992). Regional versus local accessibility: Neo-traditional development and its implications for non-work travel. *Built Environment*, 18, 253-67.

<sup>3</sup> Frank, L.D., & Pivo, G. (1994). Impacts of mixed use and density on utilization of three modes of travel: Single occupancy vehicle, transit, and walking. *Transportation Research Record*, 1466, 44-42.

<sup>4</sup> Pucher, J., and Dijkstra, L. (2003). Promoting safe walking and cycling to improve public health: lessons from The Netherlands and Germany. *American Journal of Public Health*, (93) 9, 1509-1516.

<sup>5</sup> Federal Office of Road Safety; NHMRC Road Accident Research Unit, University of Adelaide. (1994). *Vehicle Travel Speeds and The Incidence of fatal pedestrian crashes*. South Australia: McLean A.J., Anderson R.W.G., Farmer M.J.B., Lee B.H., & Brooks, C.G.

physical activity include: redesigned streets (forming squares, traffic calming, and bicycle lanes), improved lighting, sidewalk quality and connectivity and improved access to destination places. Retail, employment and commercial establishments have to be close with attractive pathways connecting them.<sup>6</sup> Physical activity increased for persons who exercise three times per week by 25% when access to places for physical activity such as walking paths are created or improved.<sup>7</sup> Physical activity also increases for those using transit. Americans who use transit spend an average of 19 minutes daily walking to and from transit and 29% achieve over the recommended 30 minutes per day of physical activity.<sup>8</sup> Social characteristics are also important. People increase their physical activity when they see other people exercise, have friends who encourage exercise or have at least one friend with whom to exercise.<sup>9</sup>

**4) Implementing policies that provide safe means for pedestrians and cyclists, people are more likely to take advantage of opportunities for physical activity as a part of everyday life.**

Safe pedestrian and cyclist means include street lighting, safety in crossing the street, sidewalk continuity and traffic claming which have all been shown to increase physical activity.<sup>1</sup> Research has shown that strong support exists across income and gender for use of government funds to provide areas to engage in physical activity and for zoning requirements that would include walking and biking paths.<sup>2</sup> Safety not only includes built environment but personal safety as well. A five state study showed that perceived neighborhood safety may have a direct relationship with rates of physical activity. In the case of older adults, physical activity rates were more than two-fold higher among those perceiving their neighborhoods to be safe.<sup>2</sup>

**5) A real opportunity exists with the close proximity of these job centers and the neighborhood for physical activity as a mode of transportation to work.**

Physical activity increases when places, such as places of employment, are in close proximity for active transportation and have safe attractive paths ways to get there.<sup>10</sup>

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<sup>6</sup> Heath, G.W., Brownson, R. C., Kruger, J., Miles, R., Powell, K.E., Ramsey, L.T., et al. (2006). The Effectiveness of Urban Design and Land Use and Transport Policies and Practices to Increase Physical Activity: A Systemic Review. *Journal of Physical Activity and Health*, 3 (Suppl 1), S55-S76.

<sup>7</sup> U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (2001). *Increasing physical activity: a report on recommendations of the Task Force on Community Preventive Services*. MMWR, 50(No. RR-18), 1-14.

<sup>8</sup> Besser, L.M., & Dannenberg, A.L. (2005). Walking to public transit: Steps to help meet physical activity recommendations. *American Journal of Preventative Medicine*, 29 (4), 273-280.

<sup>9</sup> Brownson, R.C., Baker, E.A., Housemann, R.A., Brennan, L.K., Bacak, S.J. (2001). Environmental and policy determinants of physical activity in the United States. *American Journal of Public Health*, (91) 12, 1995-2003.

<sup>10</sup> Heath, G.W., Brownson, R. C., Kruger, J., Miles, R., Powell, K.E., Ramsey, L.T., et al. (2006). The Effectiveness of Urban Design and Land Use and Transport Policies and Practices to Increase Physical Activity: A Systemic Review. *Journal of Physical Activity and Health*, 3 (Suppl 1), S55-S76

Physical activity in 10 minute increments helps a person to achieve the benefits.<sup>11</sup> The built environment must foster the ability to travel to work by walking or biking. A 1995 Harris poll showed that 20% of Americans said they would commute by walking or biking if better facilities were provided.<sup>12</sup>

#### **6) Parks and open space have been shown to increase physical activity.**

People who report some degree of activity state that they chose neighborhood streets, parks and walking/jogging trails among their top four choices for the environment in which to engage in physical activity.<sup>13</sup> There is a positive association between meeting physical activity requirements and access to parks.<sup>5</sup> Additionally, adolescent girls who live near more parks, particularly parks with amenities that are conducive to walking and with active features, engage in more moderate/vigorous physical activity than those with few parks. Girls with mini-parks, natural resource areas, walking paths, and running tracks within 1/2 mile of their homes had double the time spent in physical activity.<sup>14</sup>

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<sup>11</sup> U.S. Department of Health and Human Services. (1996). Physical activity and health a report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

<sup>12</sup> Oregon Department of Transportation. (1995). Oregon Bicycle and Pedestrian Plan: An Element of the Oregon Transportation Plan. Oregon Department of Transportation, Bicycle and Pedestrian Program.

<sup>13</sup> Brownson, R.C., Baker, E.A., Housemann, R.A., Brennan, L.K., Bacak, S.J. (2001). Environmental and policy determinants of physical activity in the United States. American Journal of Public Health, (91) 12, 1995-2003.

<sup>14</sup> Cohen, D.A., Ashwood, J.S., Scott, M.M., Overton, A., Evenson, K.R., Staten, L.K., et al. (2006). Public parks and physical activity among adolescent girls. Pediatrics, (118) 5, e1891e1389.