

# HEALTH IMPACTS OF THE UNDERLINE

The Underline is a plan to transform the land below the southern half of Miami's Metrorail into a 10-mile urban trail and linear park, studded with community spaces, event facilities, recreational amenities, and natural features.



## CHANGES IN THE CORRIDOR COULD IMPACT:

**400,000+**  
people living  
within 1/2 mile

**250,000+**  
Metrorail riders  
per week

**9,000+**  
homes, offices, stores, and  
restaurants within 1/3 mile

**100,000+**  
driving trips  
per day

## LIKELY IMPACTS INCLUDE:



### PHYSICAL ACTIVITY

**High Potential to Increase**

**Physical activity** is one of the most important determinants of health and wellness. Regular physical activity is associated with reduced risk for heart disease, diabetes, cancer, bone and joint problems, and mental illness. Miami residents suffer high rates of disease that could be prevented by regular physical activity. The Underline has high potential to increase physical activity by providing places to walk or bicycle. Recreational facilities and open green space elements will also present opportunities for people to be active.



### SOCIAL CONNECTION

**High Potential to Increase**

**Social connections** have direct and indirect links to health. Adequate access to 'social capital' can affect income, family stability, mental health, and overall life expectancy. Miami-Dade residents have high levels of socialization within their communities, but different communities do not necessarily connect with each other. The Underline will likely increase social interaction by creating safe public places to gather, and featuring art, culture, and events that highlight unique aspects of local communities.






### TRAFFIC EXPOSURE

**Potential to Increase or Decrease**

**Exposure to traffic hazards** leads to increased risks for injuries and for inhaling unhealthy air. Injuries are common concerns for pedestrians and cyclists near the corridor. Child asthma attacks a problem in the project corridor, which can be triggered by traffic emissions. Exposure to these emissions can also increase the risk for obstructive heart disease and heart attacks. These are hazards users of The Underline potentially face when travelling to and using the corridor. Perceived risks can discourage use and inhibit potential benefits.














# HOW CAN WE USE THE UNDERLINE TO CREATE A HEALTHY COMMUNITY?

## PRIORITY RECOMMENDATIONS: INCREASING USE

Element	Statement				Key Recommendations
<b>1.</b> Access	Providing access to the corridor is the most important element for promoting use of The Underline by nearby residents, workers, and visitors, to capitalize on the potential for benefits to health. If users drive to the corridor, traffic exposure could worsen.	U	U	U	<ul style="list-style-type: none"> <li>• Provide safe and convenient trail crossings along the corridor using the most suitable design for road and land use context, using designs from the Framework Plan.</li> <li>• Plan for access to the corridor across US Route 1 and other adjacent roads, which is not currently in the Framework Plan.</li> <li>• Connect the rest of the trail network</li> <li>• Develop a comprehensive and inclusive traffic plan for the Route 1 corridor, which provides safe bicycle and pedestrian access at each cross street without increasing traffic delay. This could include synchronized traffic signal timing, restrictions on traffic turns under certain conditions, design and operations reduce travel speeds (which reduces congestion, emissions, and crashes, and increases road capacity), and more.</li> </ul>
<b>2.</b> Link to Transit	Linking to transit is a critical aspect of ensuring health benefits. Public perception of Metrorail can affect perception of The Underline. Transit riders who travel through the corridor represent a high opportunity population.	U	U	U	<ul style="list-style-type: none"> <li>• Integrate design for bus bays at stations</li> <li>• Coordinate with bus and trolley service</li> <li>• Develop station area design that encourages rail travelers to stop and explore</li> <li>• Provide suitable amenities for rail travelers in the corridor design (bike share stations and secure bathrooms were specifically mentioned by stakeholders)</li> <li>• Utilize equitable Transit Oriented Design (TOD) best practices to create places which promote shopping, business, housing, and other uses within walking distance of Metrorail stations</li> <li>• Address negative perceptions of Metrorail station maintenance and safety that could suppress usage of The Underline. This includes design and operation focused on low maintenance equipment, operational efficiencies, community stewardship, partnerships to upgrade existing stations, and programming that increases the vibrancy and natural surveillance at stations-especially during non-peak hours.</li> </ul>
<b>3.</b> Programs & Operations	Programming and operations – events, maintenance, etc. - influence who uses The Underline and how they use it. Final designs should be based around intended future uses and operations.	U	U	U	<ul style="list-style-type: none"> <li>• Partner with trusted community organizations and activity providers can provide a foundation for programming that is most responsive to local demand</li> <li>• Initiate partnerships before and during the project implementation process to increase understanding about the type, size, location, and specific needs of future programming</li> <li>• Include flexibility for some spaces to allow for future adaptations to changes in or unexpected types of use</li> </ul>

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## FURTHER RECOMMENDATIONS: THOUGHTFUL DETAILS

Element	Statement				Key Recommendations
<b>4.</b> Trail Design	Trail design can have an enormous influence over usage rates and thus on potential health impacts. Trails that are too congested, improperly engineered for running or bicycling, poorly marked, inadequately lit, or otherwise unpleasant, tend to operate far below capacity.				<ul style="list-style-type: none"> <li>Separate pedestrian and bicycle traffic along the entire corridor</li> <li>Use smooth asphalt surfaces</li> <li>Maintain wide passageways with minimal curves</li> <li>Include wayfinding signage with travel times included</li> <li>Select lighting options that provide the most consistent levels of illumination</li> <li>Position frequent and generously sized rest areas to reduce obstruction of the trail passageway</li> <li>Build on the Framework Plan's designs for pedestrian crossings of the bicycle trail by adding more detail for comfortable trail patterns and access points that bicycles can use at speed</li> </ul>
<b>5.</b> Recreational Features	Recreational features proposed in the Framework Plan can increase physical activity and facilitate group events. As noted above, these elements must be responsive to anticipated types of programs and events.				<ul style="list-style-type: none"> <li>Incorporate assets such as secure showers and cooling stations</li> <li>Promote stewardship and appropriate security measures to alleviate pervasive concerns about misuse, especially by people who are homeless</li> <li>Locate recreational spaces at least 600 feet away from the most highly polluted locations, such as congested intersections or bus layover areas</li> </ul>
<b>6.</b> Park Design	Park spaces can increase physical activity and socialization, and vegetation contributes to pollutant reduction and traffic calming.				<ul style="list-style-type: none"> <li>Avoid the creation of isolated areas that could be perceived as unsafe</li> <li>Planting a low dense barrier of vegetation along the edge of the roadway, up to about 3 feet high, will help keep pollutants out of the corridor, while trees should be spaced to allow windflow from east to west</li> </ul>
<b>7.</b> Community Spaces	Community spaces are important to social connections.				<ul style="list-style-type: none"> <li>Include community participation in the planning and design of community spaces</li> <li>Emphasize that community spaces should be human scaled and human oriented, with many places designed for sitting, watching, and talking</li> <li>Ensure that art and cultural features are relevant to the community by featuring local history, artists, and performers</li> </ul>
<b>8.</b> Open Spaces	Open event spaces can provide formal and informal opportunities to be active or socialize.				<ul style="list-style-type: none"> <li>Design flexible spaces which can be used for different types of activities</li> <li>Partner with communities to select event locations that are better suited to high volumes of users</li> </ul>

# ABOUT THE HEALTH IMPACT ASSESSMENT

The Friends of The Underline's Health and Wellness Committee commissioned this **health impact assessment**, or HIA, to better understand how the Framework Plan can be used to support potential impacts on health and wellness in Underline communities. It was sponsored by the Health Foundation of South Florida and conducted by the Georgia Health Policy Center.

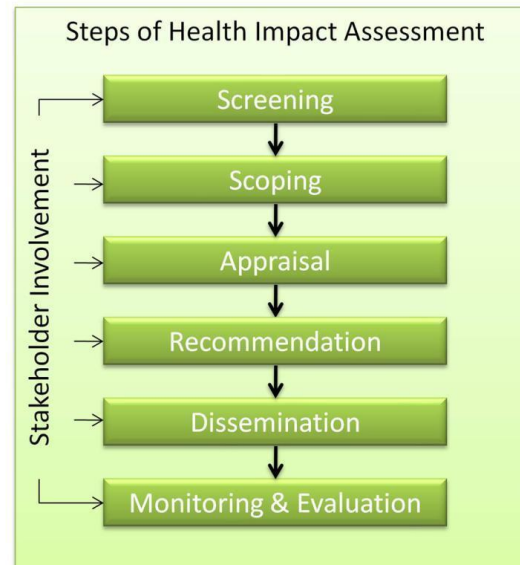
## METHODS

### WHAT IS HEALTH IMPACT ASSESSMENT?

**Health Impact Assessment**, or **HIA**, is a 'systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program, or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects.'

For the complete project goals, methodology, data, research results, community engagement, and detailed recommendations, please read the technical report.

"Improving Health in the United States: The Role of Health Impact Assessments" by the National Research Council, September 2011



### STAKEHOLDER ENGAGEMENT

The HIA process was guided by a Workgroup consisting of the Health Committee of Friends of The Underline and other key health stakeholders. The team held three Community Consultations in December 2016, near Brickell, Vizcaya, and South Miami Metrorail stations. In these meetings, stakeholders commented on the data, evidence, and predicted impacts, and discussed possible recommendations. This feedback served to refine the analysis and generate the above recommendations for designing, building, and operating The Underline in ways to maximize healthy living for all. The recommendations are prioritized by their degree of potential impact on the three health domains. It will be the responsibility of the Friends of The Underline, their partners, and relevant policymakers to act on them.

### FOR DETAILED METHODS, FINDINGS, AND RECOMMENDATIONS, REQUEST THE TECHNICAL REPORT

HEALTH FOUNDATION OF SOUTH FLORIDA • [HFSF.ORG](http://HFSF.ORG)  
FRIENDS OF THE UNDERLINE • [WWW.THEUNDERLINE.ORG](http://WWW.THEUNDERLINE.ORG)  
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