Northwest Arm Pedestrian Bridge

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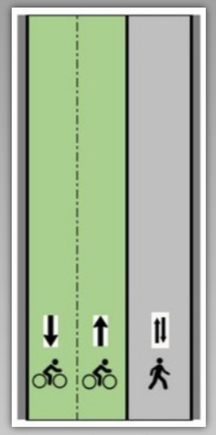
Scope of Work

The Halifax Regional Municipality (HRM) is currently working on their recently adopted Integrated Mobility Plan (IMP). The IMP will facilitate an increase in active transport throughout HRM. Active transportation is a method of transportation that is "human powered". The purpose of the Northwest Arm Pedestrian bridge is to create a walking/biking connection between Dingle Park and the Halifax Peninsula. This pedestrian bridge will act as an active transportation route to destinations such as universities, shopping, hospitals, the central library, and the downtown core. This pedestrian bridge creates an added AT crossing and an iconic landmark to fit the aesthetics of the Northwest Arm without impacting the views in the area. Required within the project scope was to determine the feasibility of a bridge crossing and create a preliminary concept.

Final Design

- Oakland Road to Dingle Park
- Design: Cable Stay; Bob Kerrey
- Length: 350 meters (1148.3ft)
- Clearance: 26 meters (85.3 ft)
- Deck Width: 5 meters (16.4 ft)
- Two 1.5 meter bike lanes and one 2 meter walking lane
- Lookoff point at halfway across bridge
- Universal Slope Obtained (less than 8%)
- Two piers; one at each end
- Suitable for AT connections
- Suitable for Park & Ride and Kiss & Ride
- Clearance can accommodate the Tall Ship Silva



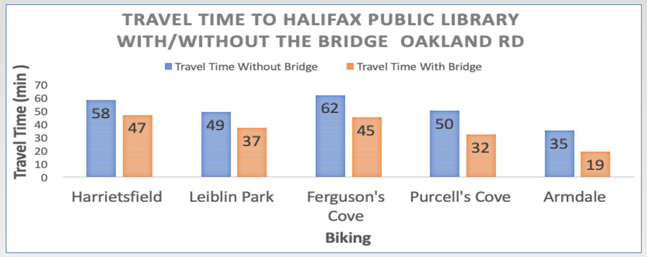
Bridge Deck Design

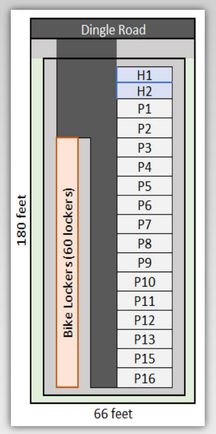
Rendering of The Northwest Arm Pedestrian Bridge

Project Location

Cost

- Total Estimated Project Cost: $19 Million
- Cost Breakdown:
  - Class D Estimate
  - 30% Contingency
  - Per Meter Cost





Parking Lot Design

Google Earth Image Including Bridge Rendering

Design Process

Demand
- Commuter demand for the general location.
- Travel time and reducing traffic congestion.

Location
- Investigate multiple locations.
- Choose optimal location determined by slopes, approaches and access.

Design
- Identify optimal bridge design for location.
- Design based on unique constraints.
- Incorporate an iconic design.

Conclusions and Recommendations

- The importance of this bridge is to increase active transportation between outside communities and peninsular Halifax to reduce vehicle congestion in the Armdale Rotary.
- A pedestrian bridge poses a greater benefit than a vehicular bridge as it facilitates road vehicle reduction, increased safety for active transport commuters, and ultimately makes active transport commuting more appealing.
- Decreasing vehicular traffic and promoting active transportation reduces CO_2 emissions.
- An addition of a pedestrian bridge over the Northwest Arm will increase the number of commuters participating in active transportation in the area.
  - Increasing biking from 0.5% to 1.5% of total commuters
  - Increasing walking from 10% to 19.5% of total commuters
- The average time savings for commuters per trip (into/out of the peninsula):
  - 26 minutes for biking
  - 20 minutes for walking
- It is recommended that the design of the Bob Kerrey pedestrian bridge from Omaha, Nebraska is used as it limits the piers in the water for the boat traffic and is aesthetically pleasing for the Northwest Arm.

References

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