REGIONAL CHALLENGE

- Population will increase by 1 million in next 10 years
- No new roads and very little transit expansion in the pipeline
- Time to get around the city is projected to get worse for all modes except biking and walking.
Georgetown is the largest employment center in DC that is not currently served by a Metro Station

Georgetown BID Area: 13,357
Georgetown University: 4,150
MedStar/Georgetown Hospital 4,414

Total Jobs 21,921

Limiting Access to jobs for thousands of DC and VA residents who could travel on Blue, Orange or Silver lines to Rosslyn and make a quick transfer.
## Types of Jobs in Bid Area & GU Campus

### GBID Boundary

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leisure and Hospitality</td>
<td>4,228</td>
</tr>
<tr>
<td>Professional and Business Services</td>
<td>3,736</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>1,752</td>
</tr>
<tr>
<td>Other Services (Except Government)</td>
<td>1,591</td>
</tr>
<tr>
<td>Financial Activities</td>
<td>652</td>
</tr>
<tr>
<td>Educational and Health Services</td>
<td>347</td>
</tr>
<tr>
<td>Construction</td>
<td>263</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>212</td>
</tr>
<tr>
<td>Information</td>
<td>129</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>38</td>
</tr>
<tr>
<td>Unclassified</td>
<td>80</td>
</tr>
<tr>
<td>Transportation</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>13,357</td>
</tr>
</tbody>
</table>

### Georgetown Main Campus

<table>
<thead>
<tr>
<th>Location</th>
<th>Number of Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Campus</td>
<td>4150</td>
</tr>
<tr>
<td>Medstar Hospital</td>
<td>4414</td>
</tr>
<tr>
<td>Total</td>
<td>8,564</td>
</tr>
</tbody>
</table>

---

`Georgetown University Campus`  

`Gondola Station Site`
People from Across the Region Work in Georgetown – most experience transportation challenges on a daily basis.
30-MINUTE TRANSIT SHED TO GEORGETOWN

- People living in the light green sections can get to Georgetown jobs by transit in 30 minutes w/ Gondola

- A Georgetown Metro connection (Gondola) is the fastest and least expensive way to create access to jobs for DC residents east of downtown.

```
Without Gondola
With Gondola
* Destination: Georgetown Gondola Station
  ● Reference: Rosslyn Gondola Station
```
We have Metro, Circulator, and GUTS Buses crossing the bridge.

They require:

1. a second seat wait
2. 10+ minutes in traffic depending on time of day
3. Large annual operating subsidies
4. Sharing limited right of way and competing with cars and buses to get between Georgetown and Rosslyn

Street Car is impractical because of its: expense, second seat wait, use of existing right of way, and engineering challenges
ALIGNMENTS OF FUTURE METRO STATIONS

2 Stations: 36th/M and Thomas Jefferson/M
The Cost of a New Metro Station - Separated Blue Line

<table>
<thead>
<tr>
<th>Cost</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2.5 Billion</td>
<td>Rosslyn &amp; Georgetown Tunnels/Track &amp; Station Infrastructure</td>
</tr>
<tr>
<td>$8.5 Billion</td>
<td>West End to Union Station Tunnels/Track &amp; Station Infrastructure</td>
</tr>
<tr>
<td>$11 Billion*</td>
<td>Approximate cost of separated Blue Line</td>
</tr>
</tbody>
</table>

*Estimate in 2014 dollars

The Georgetown Gondola Station would be the **Georgetown Metro Station** for the next 30-40 years (for $80-100 million)
GONDOLA FEASIBILITY STUDY CONCLUSIONS:

- Technically feasible and permit-eligible
- Projected minimum weekday daily ridership: **6,500 riders** – More than 20 Metro stations
- Will *induce some regional transit* trips and may *reduce some car* trips due to:
  - elimination of wait time at transfer point
  - expanded ½ hour transit travel shed = jobs more accessible to region
- Most promising alignment: **36th Street to N. Lynn Street.**
- **$80-$90M* to construct** - similar to other international gondola systems
- **$3.25M/year operating costs** - similar to other international gondola systems
- Cost per ride is **significantly less** than other public transit modes with similar performance
- A model for future transit - affordable technology to connect activity centers to regional network

*Now estimating $80 – 100M due to increasing land costs*
WHY URBAN GONDOLAS?

- Cross geographic boundaries like rivers, canyons, slopes better than any other transit
- More capacity than bus, BRT, or Light Rail
- Eliminates second seat wait – so induces transit demand
- More affordable to build and operate than any other fixed guideway
- Creates a new right-of-way rather than displacing existing vehicles from a travel lane
- Quicker and more reliable than other transit modes
- Very safe and operates in heavy weather
- Can be installed and commissioned in as little as 18 months from construction start
- Can be integrated into the regional fare system (SmarTrip or its successor)
- Functions as a Metro station to expand regional transit network at a fraction of cost
- Can be an interim Metro Station while region plans and raises money for new tunnels far in the future

Las imágenes contenidas en este sitio web, fueron elaboradas con fines ilustrativos. No constituyen necesariamente una representación exacta de la realidad.
Lo anterior se informa de acuerdo a lo dispuesto en la Ley N° 19.472.
Over the last 20 years urban gondolas have gone into service in Europe, South America, Asia and Africa.
GONDOLAS AS MAJOR TRANSIT SUCCESS STORIES

La Paz

Mexico City

Rio de Janeiro
MEDELLIN, Columbia
GONDOLA STUDIES IN U.S. URBAN AREAS

Studies are now underway in New York, Albany, Boston, Chicago, Austin, Miami, San Diego and Washington, DC
Technical Issues addressed in the feasibility study

- Alignments
- Metro Interconnectivity
- Ridership estimates
- Costs
- Station Site Issues
- Review Agencies and Entitlements
- Next Steps
This alignment provides a straight shot between stations eliminating need for a turn station. The next slide shows walk sheds in ¼ and ½ mile of Georgetown Station.

36th Street (Georgetown) to N. Lynn Street (Rosslyn) is the most feasible alignment.

This is one of more than a dozen alignment and station configurations explored in the feasibility study.
2 minutes from Gondola Station to Metro Platform
Figure 3 graphically summarizes the range of existing cross-Potomac travel in the Rosslyn Georgetown area, the land use-based forecasts from the Roosevelt Island and Portland systems, the MWCOG model forecasts, and the existing ridership of comparable ropeway systems. Depending on the methodology used and the specific characteristics of the gondola system analyzed, the ridership estimates range from 4,600 to 15,600 daily trips.

These forecasts depend on a number of factors which have not been determined at this stage of the project including, among others, the location of the gondola stations on the Rosslyn and Georgetown ends of the trip, the speed and headways of the gondola cabins, the fare structure, and factors affecting the passenger experience.

These forecasts have been used to define/scale two aspects of the project’s feasibility: (1) the lower-end of the forecast should be used to assess operating costs and revenue so as to have a conservative assessment of the proposed systems feasibility from a cost perspective; and (2) the higher end of this range should be used to define the potential upper limits of ridership such that the system will have the capacity to meet the upper limits of potential demand. Unlike some other modes of transit, for which increasing passenger capacity increases operating costs from additional operators, a gondola can increase capacity to accommodate higher demand levels with little marginal cost: each additional cabin increases capital and some maintenance costs, but does not increase operating costs.

Average of 6,500 people per day projected
DEVELOPMENT COSTS
Potential costs to construct a gondola system have been evaluated as part of the feasibility study. While the eventual alignment and design will have an impact on the total cost, a gondola system would likely cost in the range of $80 to 90 Million to design and construct.

Construction costs for a gondola system could vary based on whether towers are located on land or in the river, whether costs to acquire real estate for stations other needed right-of-ways are required, or if an alignment requires a turn station.

The cost to construct a gondola would be significantly less than other transit projects that have been undertaken in the region. For example, the NoMa–Gallaudet U Metrorail infill station cost $103.7 Million ($131 Million in 2016 dollars) to build, and the proposed Potomac Yard station is estimated to be between $130 and $180 Million to complete.

The Metro 2040 Plan for a new Rosslyn–Georgetown Tunnel and Stations was estimated to cost $2.5 Billion in 2012 dollars and take from twelve to sixteen years to implement.

SYSTEM COSTS

<table>
<thead>
<tr>
<th>System Costs</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabins, 23</td>
<td>$2.5 M</td>
</tr>
<tr>
<td>Line Equipment</td>
<td>$1.0 M</td>
</tr>
<tr>
<td>Station Equipment</td>
<td>$10.4 M</td>
</tr>
<tr>
<td>Station Structures</td>
<td>$2.0 M</td>
</tr>
<tr>
<td>River Foundations</td>
<td>$15.0 M</td>
</tr>
<tr>
<td>Tower Special Design</td>
<td>$6.0 M</td>
</tr>
<tr>
<td>Design / Engineering</td>
<td>8% 1 $2.9 M</td>
</tr>
<tr>
<td>Contingency</td>
<td>25% 1 $9.2 M</td>
</tr>
<tr>
<td>System Subtotal</td>
<td>$49 M</td>
</tr>
</tbody>
</table>

ALLOWSANCES

<table>
<thead>
<tr>
<th>Allowances</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station Vertical Circulation</td>
<td>$3.0 M</td>
</tr>
<tr>
<td>Station Enclosure - Rosslyn</td>
<td>$7.0 M</td>
</tr>
<tr>
<td>Station Enclosure - Georgetown</td>
<td>$7.0 M</td>
</tr>
<tr>
<td>Potential Turn Station</td>
<td>If Needed $7.0 M</td>
</tr>
<tr>
<td>Real Estate Acquisition/Related Improvements</td>
<td>If Needed $12.0 M</td>
</tr>
<tr>
<td>Environmental &amp; Permits</td>
<td>$5.0 M</td>
</tr>
<tr>
<td>Potential Project Budget</td>
<td>$90 M</td>
</tr>
</tbody>
</table>

1 Percentage of System Construction Cost

DEVELOPMENT ASSUMPTIONS
SYSTEM TYPE
Monocable Gondola
CAPACITY
Cabins, 8 -12 passengers 2,400 people per hour / per direction
FREQUENCY
20 seconds -1 minute, between cabins
TRAVEL TIME
4 minutes, door-to-door
TOWERS
2 tall towers 2-4 smaller towers over roadway
STATIONS
2 Terminus Stations 1 Angle Station (if needed)
POTENTIAL COST
$80 - 90 Million
COST COMPARISON:
In the range of the Emirates Line, London, United Kingdom
OPERATIONS COSTS
The projected annual operations costs include personnel expenses and general/administrative costs.

GENERAL OPERATIONS AND MAINTENANCE PLANNING:
Careful planning and design is required to provide continuous operation of an urban gondola.

In order to perform required maintenance, a shift of technical personnel will be required on night shift 10 pm to 6 am 5 days per week. Such a maintenance schedule would allow for year around operation.

Other urban systems schedule between 0 and 5 days of annual extensive maintenance where the system would not be operational.

Maintenance requirements vary from system to system. It will likely be necessary to change the haul rope every 4-6 years. That may require 3-5 days of down time. The rope must be ordered 6 months in advance, so the outage can be scheduled at low demand times. Other major system items may need to be designed for replacement, rather than field repair as is common in the industry.

Comparison: Overall, in the range of the Emirates Line, United Kingdom and Telluride, Colorado

PERSONNEL EXPENSES

<table>
<thead>
<tr>
<th>Administrative Staff</th>
<th>General Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations Manager</td>
<td>Accounting</td>
</tr>
<tr>
<td>Administrative Subtotal</td>
<td>$200,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operational Staff</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Shift Supervisors</td>
<td>4</td>
</tr>
<tr>
<td>Technicians</td>
<td>5</td>
</tr>
<tr>
<td>Station Attendant</td>
<td>14</td>
</tr>
<tr>
<td>Overtime Allowance</td>
<td>10%</td>
</tr>
</tbody>
</table>

Operations Subtotal $1,265,000

| Payroll Taxes and Benefits | 40% | $586,000 |

Personnel Total $2,051,000

GENERAL AND ADMINISTRATIVE EXPENSES

| Franchise, office, rent | $200,000 |
| Insurance | $500,000 |
| License, Consulting, Legal | $50,000 |
| Building maintenance | $50,000 |
| Personnel Training, Uniforms | $200,000 |
| Gondola parts, supplies, tools | $150,000 |

General and Administrative Total $1,200,000

ANNUAL OPERATIONS AND MAINTENANCE COST $3,251,000
STATION SITE & CONCEPT MASSING ALONG LYNN STREET RIGHT OF WAY

ABOVE View looking Northwest showing a gondola station above N. Lynn Street in Rosslyn. The station could be designed as an iconic, transparent, sustainable and artistically lit structure to complement the on-going revitalization efforts in Rosslyn.
Prospect Street Station Massing
Exxon Site/36th St R.O.W. site would provide easy access to M Street and Prospect Street directly.
Terminal Station – Cross Section

Section

100’ to 120’ Long

30’ to 50’ High

Passenger Area
Cabin Details

Gondola Cabins

Plan

Elevation A

Elevation B

Gondola Station Loading Area, Pitztal, Austria
Gondola Interior, Emirates Line, London, UK
100’ deep
60’ wide
+/- 40’ to top of roof
GEORGETOWN HILLSIDE DEVELOPMENT
STATION SITE LOCATIONS ALONG M STREET RIGHT OF WAY

60’ x 100’
ACQUISITION OF THE EXXON SITE MAKES SENSE:

- Ongoing gas station that pays rent (until developed)
- Future gondola station
- Circulator turn around space (saving the District approximately $410,000/year or $6.5 MM in present value) + eliminated 150 tons of carbon.
- A future Metro site for separated Blue Line;
- Multi-modal uses such as a major bike station;
- Future mixed use development for DC, GU, or a commercial or residential building.
### Topic Area and Agency Involved

#### Parklands
- National Park Service

#### River Construction and River Navigation
- U.S. Coast Guard
- Army Corps of Engineers
- National Park Service
- National Oceanic and Atmospheric Administration
- District Department of Energy and Environment

#### Air Rights/ Right of Way
- Arlington County Department of Environmental Services
- District Department of Transportation
- Virginia Department of Transportation
- National Park Service

#### Air Traffic (Fixed and Rotary Wing)
- FAA Seattle Office
- DCA Control Tower

#### Viewsheds and Project Design
- Old Georgetown Board / Commission of Fine Arts
- National Capital Planning Commission
- National Park Service
- District of Columbia State Historic Preservation Office
- Virginia State Historic Preservation Office
- Arlington Department of Community Planning, Housing, Development

#### Historic Resources and Preservation
- DC Historic Preservation Office
- Virginia Historic Preservation Office
- Arlington County Preservation Planner

#### District of Columbia Building Heights
- DC Office of Planning
- DC Office of Zoning
- National Capital Planning Commission

#### Construction Permitting
- District Department of Consumer and Regulatory Affairs
- National Park Service
- Arlington County Department of Environmental Services
- Virginia Department of Transportation
- Army Corps of Engineers
- Arlington Transportation Commission
Example of information collected during agency consultations

The Federal Aviation Administration (FAA) controls the air space in the Washington, DC region for both fixed wing (aircraft) and rotary wing (helicopter) traffic. The FAA office in Seattle, Washington reviews potential airspace obstructions and the tower at National Airport controls the air traffic over the Potomac River. The gondola project area near Key Bridge sits directly below the flight path for both fixed wing and rotary wing air traffic in and out of National Airport and other landing areas nearby. Fixed wing traffic has a floor of 900 feet in this location, meaning that it must remain above 900 feet as it passes over Key Bridge. Rotary wing traffic is required to maintain a 500-foot separation from fixed wing traffic above. Rotary wing traffic does not have a floor, meaning that it is required to avoid all obstructions, which are marked on FAA maps. The elevation of Key Bridge at its highest point sits at 85 feet.

The project should be filed with the FAA after preliminary decisions have been made about tower heights, locations, and ropeway space between towers. The FAA will conduct an initial evaluation in approximately 45 days, after which any issues raised can be negotiated among the parties until a “determination of no hazard” is reached. The proposed towers for the gondola system would not penetrate the approach and departure zones for National Airport and do not exceed the height of obstructions required to employ special lighting and markers (200 feet). The presence of significant helicopter traffic in the area, however, may introduce a requirement for special lighting and markers. This will be determined during FAA review. Multiple FAA divisions, including the control tower at National Airport will be involved in project review.

ABOVE Diagram of air space zones for helicopter and airplane traffic as defined by the FAA in relation to Key Bridge.
VIEWSHED ANALYSIS

As part of consultation with review agencies, the public and several stakeholders, the impact to views was identified as one of the most critical issues. Consequently, as part of the feasibility study, a visual analysis from surrounding locations was performed, shown on the map to the right.

FINDINGS:

Views labeled with a white number and black outline indicate locations where the gondola would not be visible.

Viewpoints labeled with blue numbers reference locations where the gondola would be visible but may not be a significant impact due to the distance and surrounding context.

Viewpoints indicated in red letters indicate locations where the gondola would be most visible. The design of the gondola system, including its location and tower design will be most important to consider the impacts from these locations.

The following pages document the views from locations where the gondola would be most visible as well as partially visible. Alignments on both the east and west sides of Key Bridge have been represented in these images. In order to clarify the impact of the alignments where necessary, two images have been provided - one that shows the gondola with the context screened, and one with the gondola and context shown as it would actually appear.
THEODORE ROOSEVELT ISLAND

Towers West of Key Bridge
**NEXT STEPS**

- Council approved Gondola in FY 2018 Capital Budget – enabling possibility of a PPP to proceed. Appropriated $250K for EIS.

- Mayor and PPP partners develop strategy to acquire multi-modal site before it is developed privately - secure funding in the next DC capital reprogramming.

- PPP group initiates EIS ($500K pledged/raised to date – sufficient to start EIS. Fundraising for additional $2.25 million to complete the EIS is being planned.

- Georgetown Station Site must be acquired to preserve ability to build the project after it is entitled.
GEORGETOWN-ROSSLYN GONDOLA HAS SOLID SUPPORT FROM:

- Business Community on both sides of the river
- Georgetown University
- Federal City Council
- Residential Community (CAG & ANC support EIS and will support construction once design issues are adequately addressed)
- DC Council Leaders
The Questions We Get...
Why should we do this for Georgetown?

The Gondola is for everyone in the region to have access to Georgetown's jobs, and retail. It is a missing link in the regional public transportation network. It benefits everyone by reducing regional congestion, pollution and travel time.
NEXT STEPS

Who will pay for this?

The Study suggested a $80-$90 Million Price tag
We have budgeted $100 Million (1/2 the cost of a new Metro Station)

• 50% or $50 Million from FTA Small Start Grant (similar to Telluride Colorado Gondola)

• $30-$40 million from DC Public Sources

• $10 million Georgetown Private and Institutional Sources

• $5-10 Million from Virginia Public and/or Private Sources
“CAN’T PEOPLE JUST WALK TO GEORGETOWN FROM ROSSLYN METRO?”

Population

Willing to Take Transit (¼ - ½ mile walk) – 40%*

More than ½ mile walk** - 29%

More than 1 mile walk** - 12% or less


¼ and ½ mile walkshed from Rosslyn Metro Entrance

A ½ mile walk-shed (the distance most people are willing to walk to and from transit) does not even get people over the Key Bridge from Rosslyn’s Metro Station.
### ¼ and ¼ mile walkshed from 36th and M/Prospect

A ¼ mile walk-shed (the distance most people are willing to walk to and from transit) reaches most of the university, hospital, and half of commercial Georgetown from 36th and Prospect.
GEORGETOWN–ROSSLYN GONDOLA

½ Mile, 8.5 minutes

1/4 Mile, 4.2 minutes
Georgetown’s Transit Access is Inadequate

- A large concentration of both inadequate transit, but high potential ridership are in Georgetown, Foxhall & Palisades

- Recent Mapping by AllTransit and Center for Neighborhood Technologies (CNT) shows 25% of DC households have inadequate transit service

- These markets could be well served by the gondola + a rebuilt trolley trail

- MoveDC Plan Calls for 75% of commutes to be by transit, bike, walking. The gondola can contribute to this goal
FOR MORE INFORMATION

Updates: http://www.georgetownrosslyngondola.com/


General Project Information:
- Joe Sternlieb jsternlieb@georgetowndc.com or Will Handsfield whandsfield@georgetowndc.com Georgetown BID
- Emeka Moneme, Emoneme@federalcitycouncil.org Federal City Council
- Scott Flemming, ssf2@georgetown.edu Georgetown University
- David Levy, dl@livablecity.com Livable City Group