

# vision42



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# **vision42**

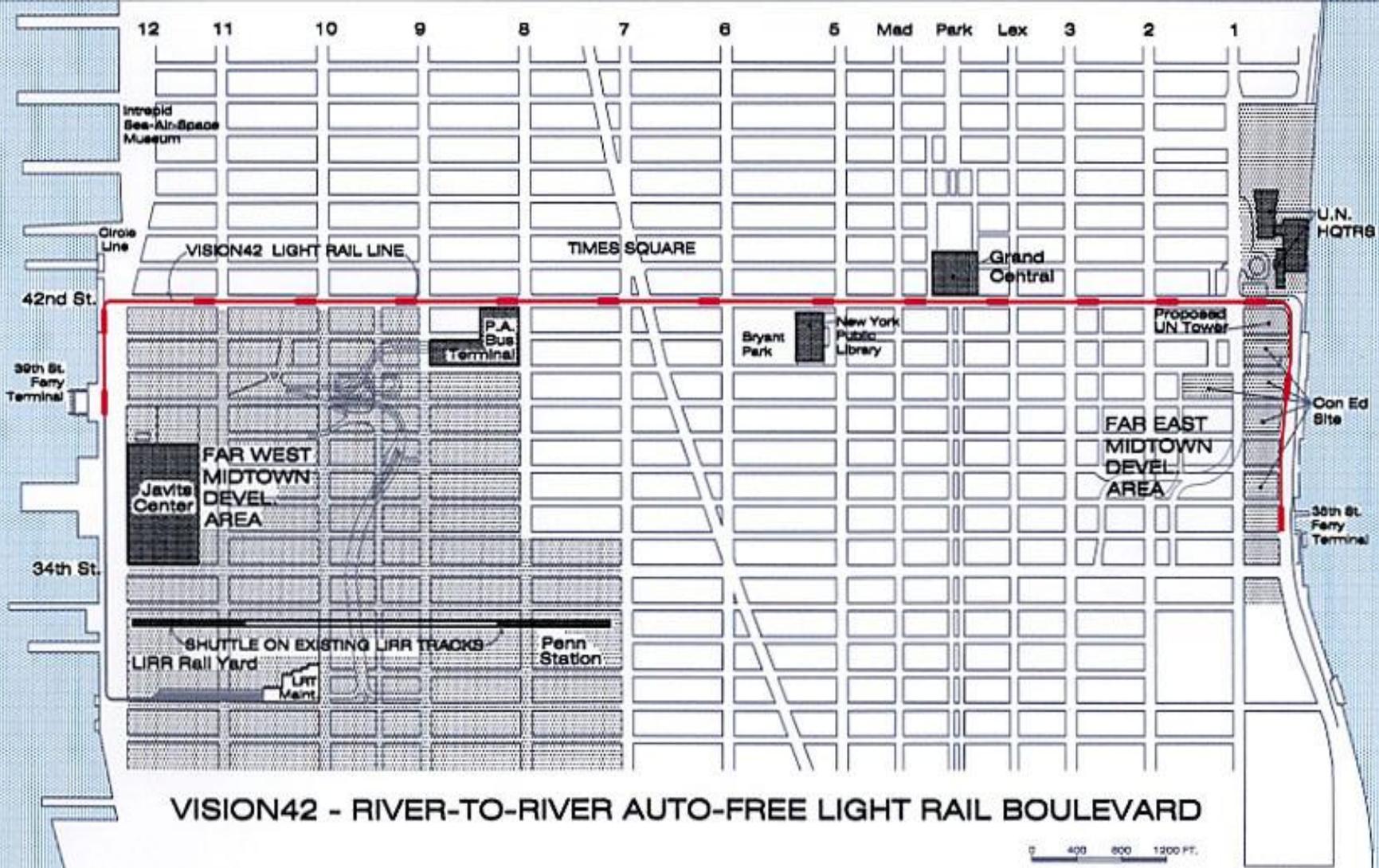
## **auto-free light rail boulevard for 42nd Street**

**Roxanne Warren, AIA, Chair**

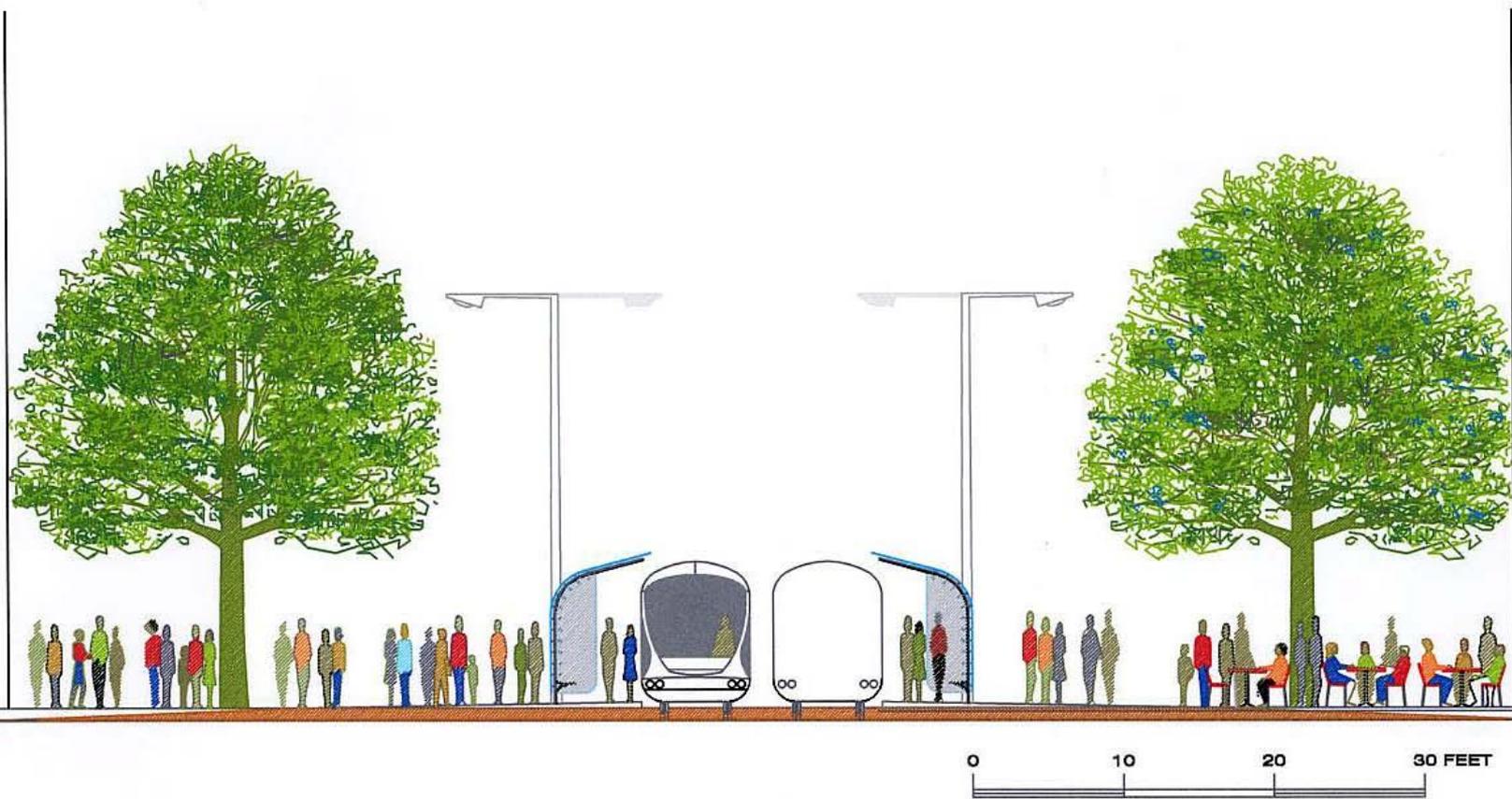
**George Haikalis, ASCE, Co-Chair**

**Institute for Rational Urban Mobility, Inc.**

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**A 2½-mile low-floor light rail line, river-to-river in 21 minutes — with vehicles arriving every 3½ minutes in peak hours linking transit hubs and many of NY's major destinations.**



## VISION42 - TYPICAL CROSS SECTION

**A fully landscaped walking environment for Manhattan's center — eliminating traffic allows space for cafés and other amenities, providing significant new open green space in this park-deprived area of town.**



**While half a million people arrive daily at 42nd Street's major transit hubs,**

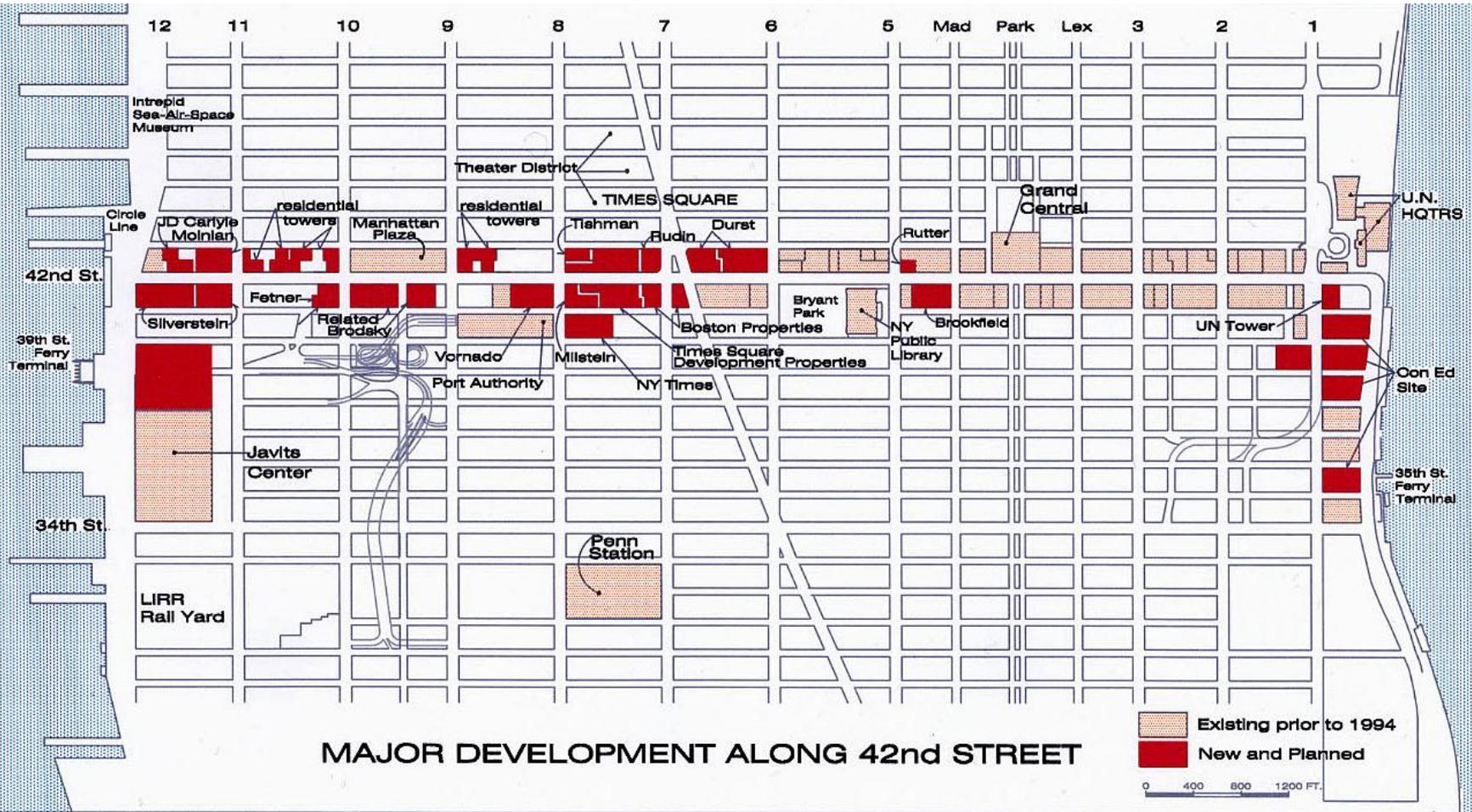


**some 60 percent of the street space is allocated to motorists.**

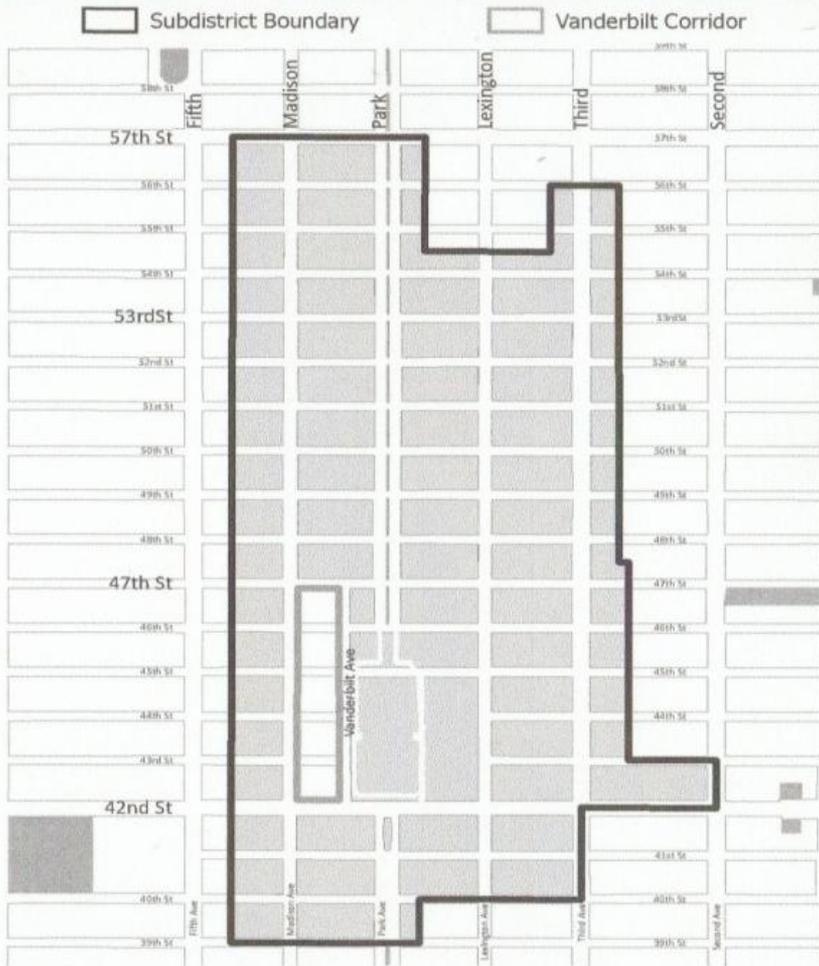


# *Put People First*

- ***This current allocation of street space, motorists to pedestrians, is grossly inequitable.***
- ***Pedestrians outnumber vehicles by a ratio of six to one.***
- ***Motor vehicles can be shifted to other street, but pedestrians need to be on this vital street.***



**Demands for better surface transit and pedestrian space are also growing with every new development.**



**Greater East Midtown Proposal**

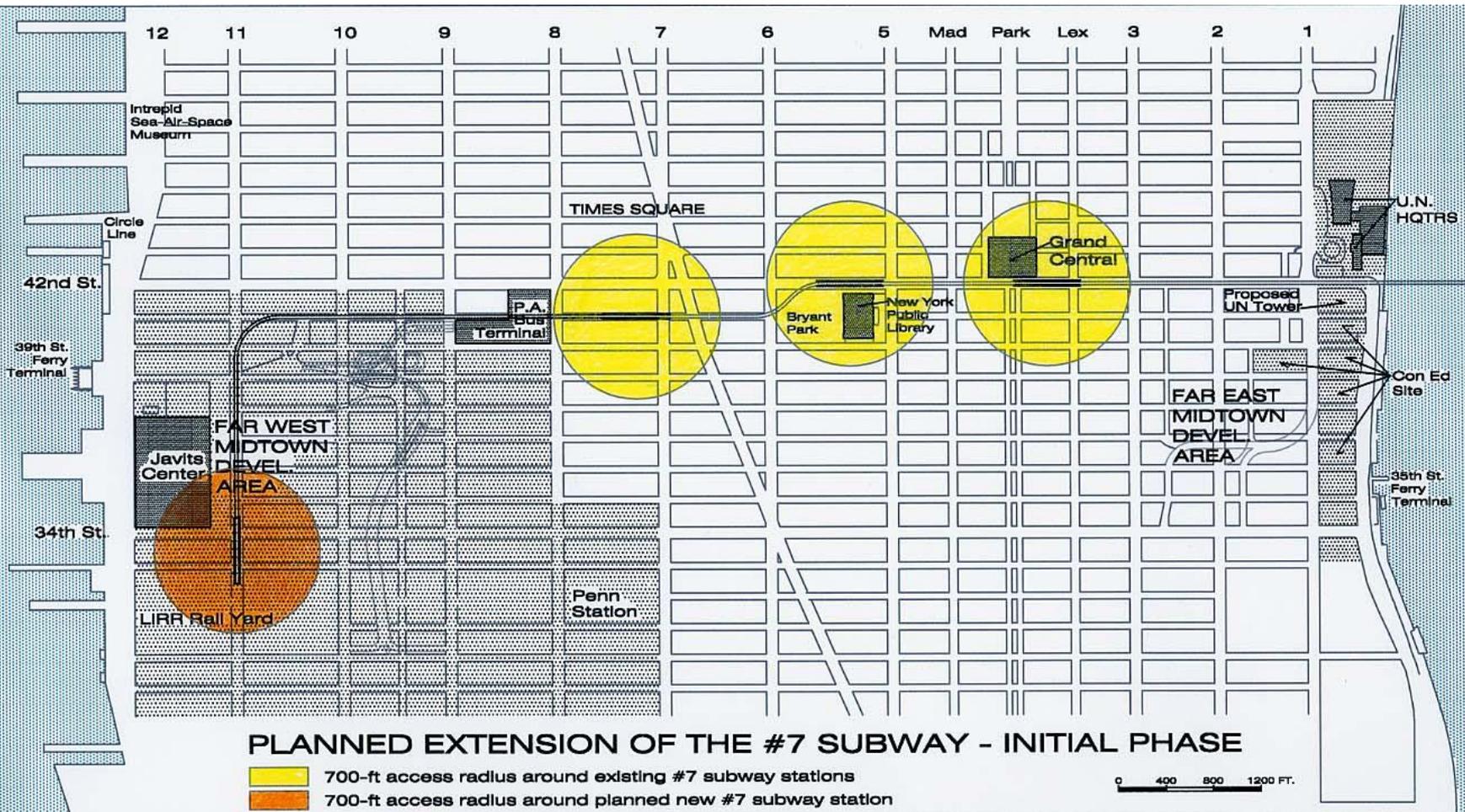
East Midtown Rezoning will add some six million square feet (net) in the nation's most congested business district.



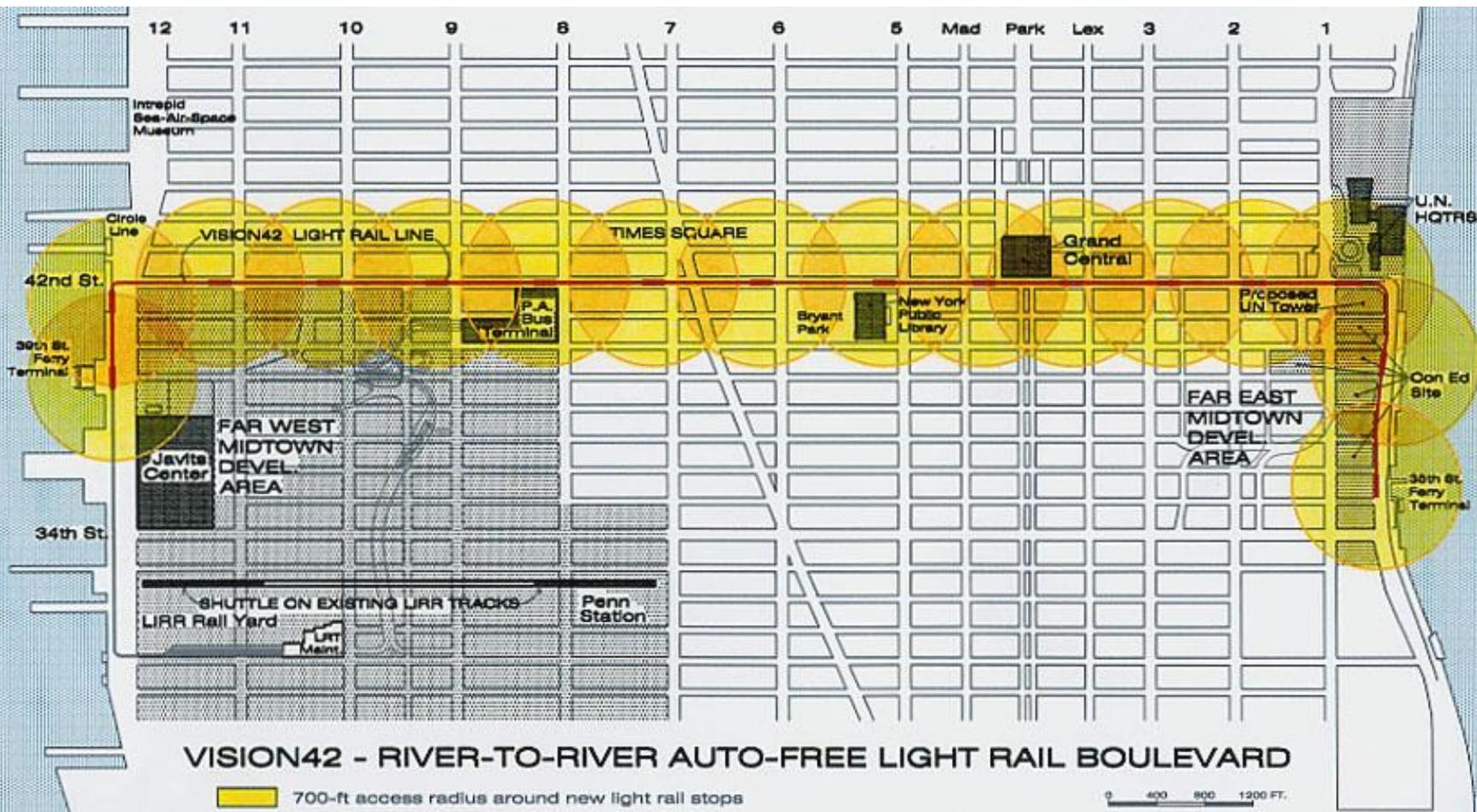
**A preview of what's coming to 42nd Street**



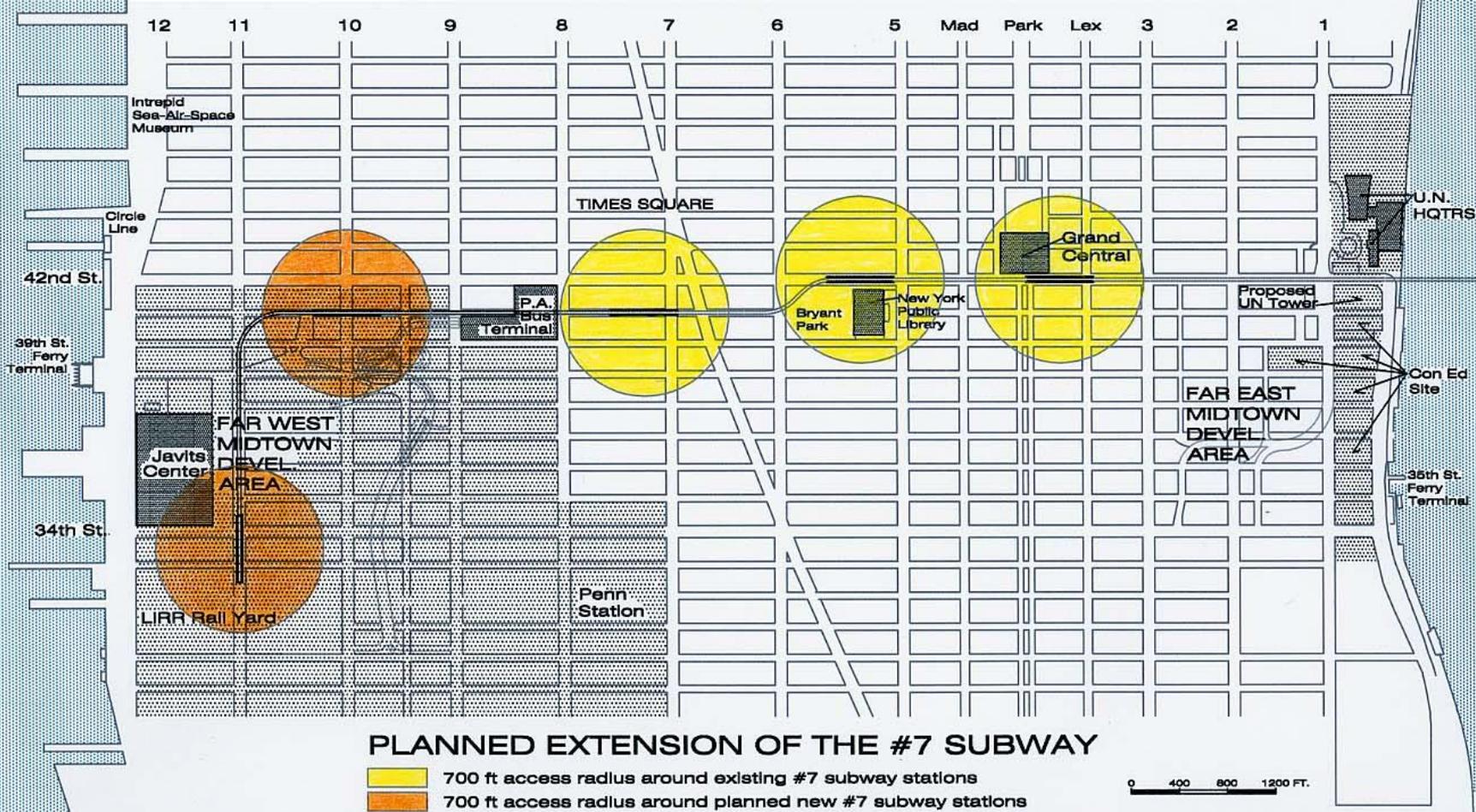
**One Vanderbilt is already under construction**



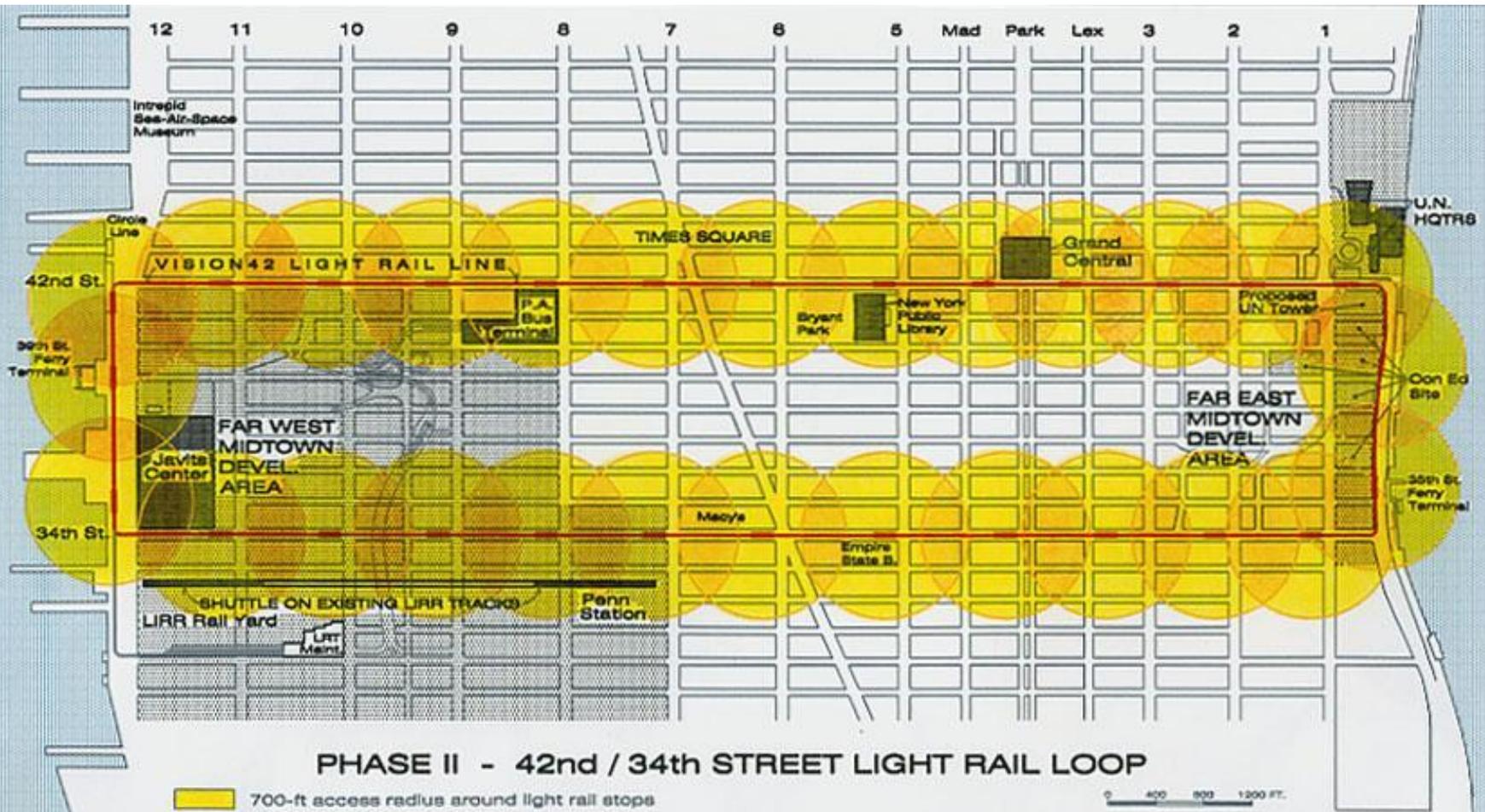
Even with the #7 subway extended to the Hudson Yards, there is *still* no rail connection to *other* major planned new developments along the waterfronts, such as the Con Ed site.



Light rail can reach the new development planned at the rivers, stopping at every avenue and transit line along the way.

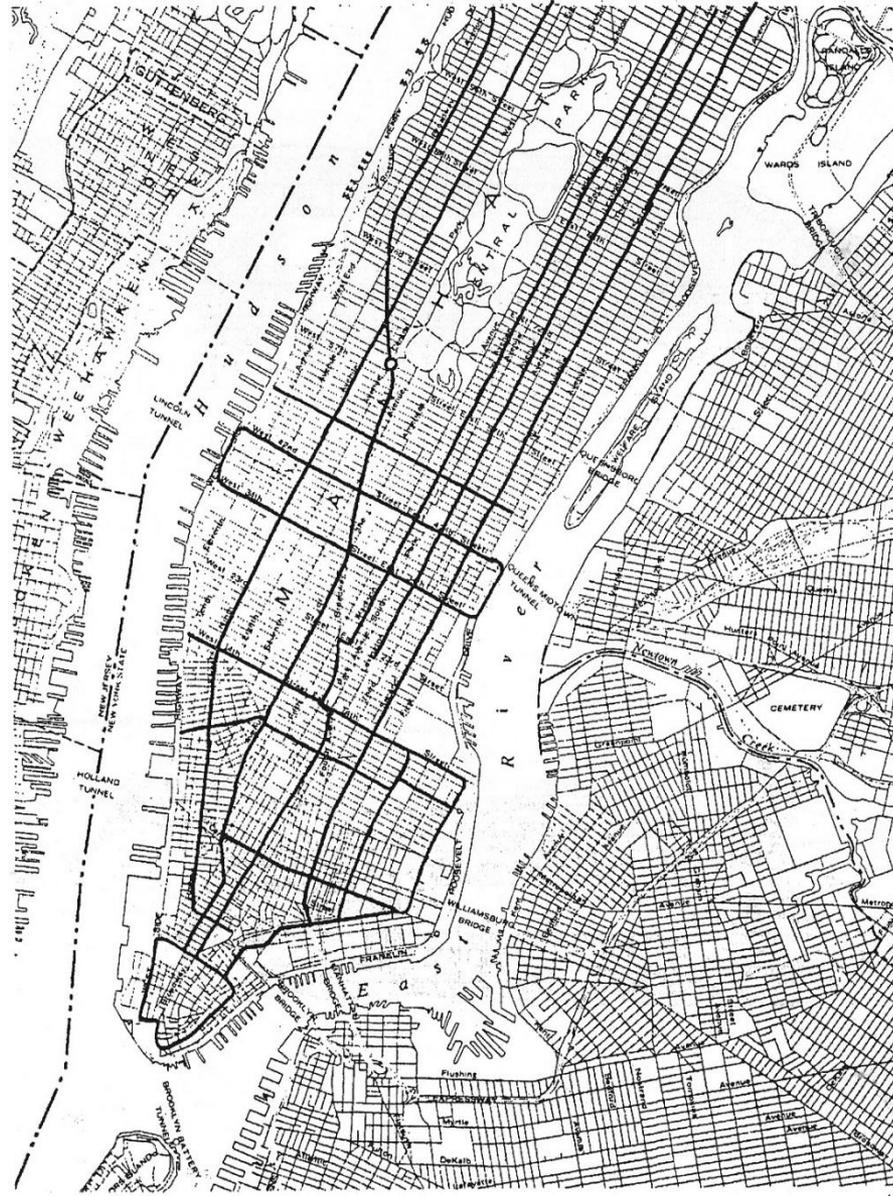


The cost of adding a new station at 10<sup>th</sup> Avenue on the #7 subway would exceed the cost of constructing the entire 16-stop river-to-river light rail line while producing only one-third the benefits



**Light rail could ultimately be extended to create a continuous two-way 42nd/34th Street loop, linking all major Midtown transit hubs and ferries with the United Nations, the Javits Center, other important tourism venues, and new developments planned along both rivers.**

# This idea could be extended to create Light Rail/ Pedestrian Street Grids throughout Manhattan



# ***Why Light Rail rather than buses?***

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- **Its rails create a self-enforcing path, resulting in more dependable trip times.**
- **It has a smoother, more appealing ride, therefore a record of attracting passengers of all income levels.**
- **A light rail vehicle has three times the capacity of a bus, thereby avoiding bus bunching.**
- **Its permanence reinforces new development.**

# ***The natural accessibility of surface light rail***

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- Surface light rail can also provide, by its very nature, *inexpensive accessibility for passengers with disabilities* – important for New York City with its growing population of elderly residents.



**Low floors allow light rail to perform almost like a moving walkway.**



**Light rail auto-free streets in the U.S. include those in Houston, Dallas, San Diego, Sacramento, Portland and Minneapolis.**



**Light rail auto-free streets are thriving, with high-end shops, in Zürich, Amsterdam, Gothenburg, Bremen, Kassel and Montpellier.**



**New Jersey Transit chose light rail over buses for its Hudson Bergen line for the greater dependability of its dedicated right-of-way...**



...which avoids this problem.

# TECHNICAL STUDIES

ECONOMIC



TRAFFIC



SAM SCHWARTZ LLC

COST



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# Key Findings of Latest Economic Study

- Were based on more recent data and more refined modeling.
- Findings of the earlier **vision42** studies have also been factored to reflect changes in construction and operating costs.

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**Property Value  
Increases with  
Light Rail**

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# Existing property values in vision42 corridor

## Existing (2015) Conditions

• Office	\$ 32,864 million
• Commercial w/Retail	\$ 1,632 million
• Vacant	\$ 502 million
• <u>Residential</u>	<u>\$ 8,484 million</u>
• Total	\$ 43,482 million

Proximity to transit is one of the primary influences on property values in Manhattan.



# Future property values in vision42 corridor\*

## Future (2025) Conditions

• Office	\$ 39,686 million
• Commercial w/Retail	\$ 4,698 million
• Vacant	\$ 502 million
• <u>Residential</u>	<u>\$ 17,554 million</u>
• Total	\$ 62,440 million

\*in 2015 dollars, excluding Hudson Yards



# Increase in existing property values due to vision42

## Existing (2015) Conditions

- Office \$ 2,080 million
- Commercial w/ Retail \$ 5 million
- Vacant \$ 81 million
- Residential \$ 2,317 million
- Total \$ 4,483 million



# Increase in future property values due to vision42\*

## Future (2025) Conditions

- Office \$ 2,597 million
  - Commercial w/ Retail \$ 70 million
  - Vacant \$ 81 million
  - Residential \$ 9,809 million
  - Total \$12,557 million
- \*in 2015 dollars, excluding Hudson Yards

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## Other Benefits

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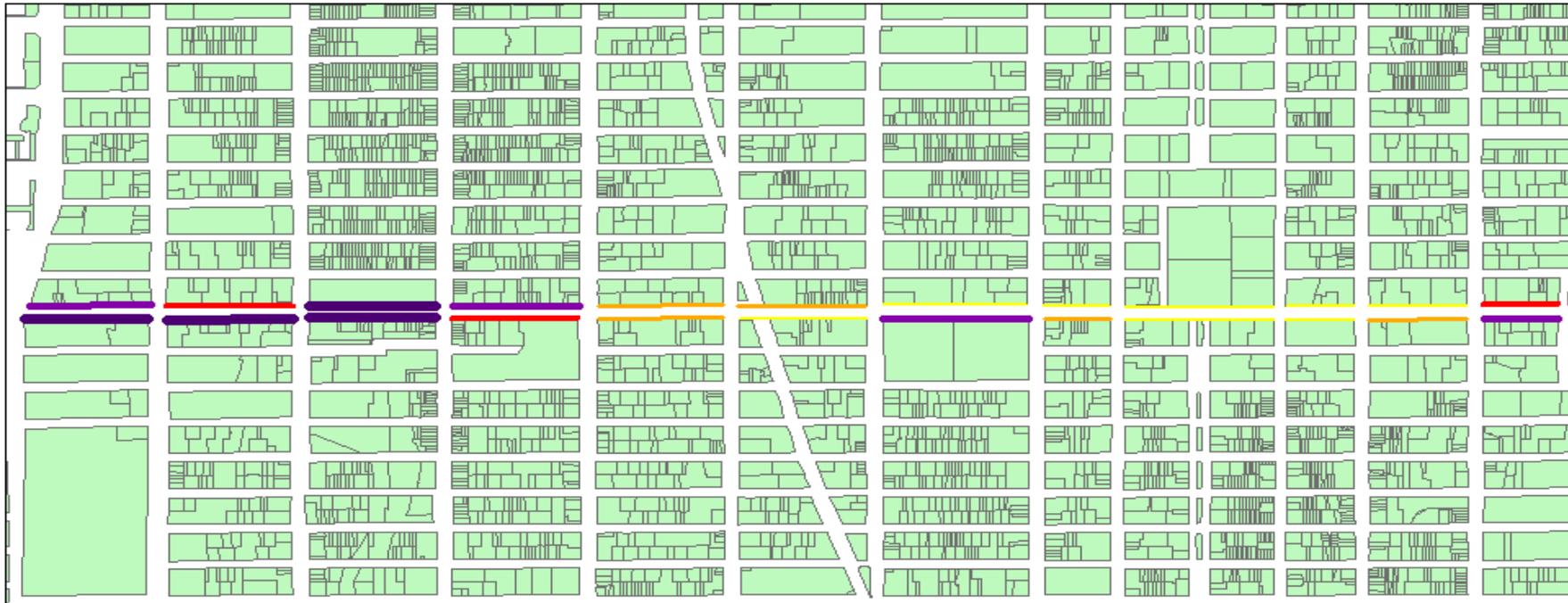


# Increase in Annual Office Rents for Property Owners

Annual rent and occupancy increases due to proximity to transit improvements.

	<b>New Office Rents with LRT Service</b>	<b>Lease Values of Turnover at New Rents with LRT Service</b>
Existing Conditions	\$78.6 million	\$116.0 million

# Projected Increases in Pedestrian Trips by Block Segment



**vision42:**  
**Pedestrian Generation of  
Pedestrianization and LRT**

Percent Change Midday

- 15.3% - 21.8%
- 21.9% - 32.9%
- 33.0% - 50.4%
- 50.5% - 73.7%
- 73.8% - 90.8%

**Projected gains in retail and  
restaurant sales are based on an  
average increase of 35 percent.**

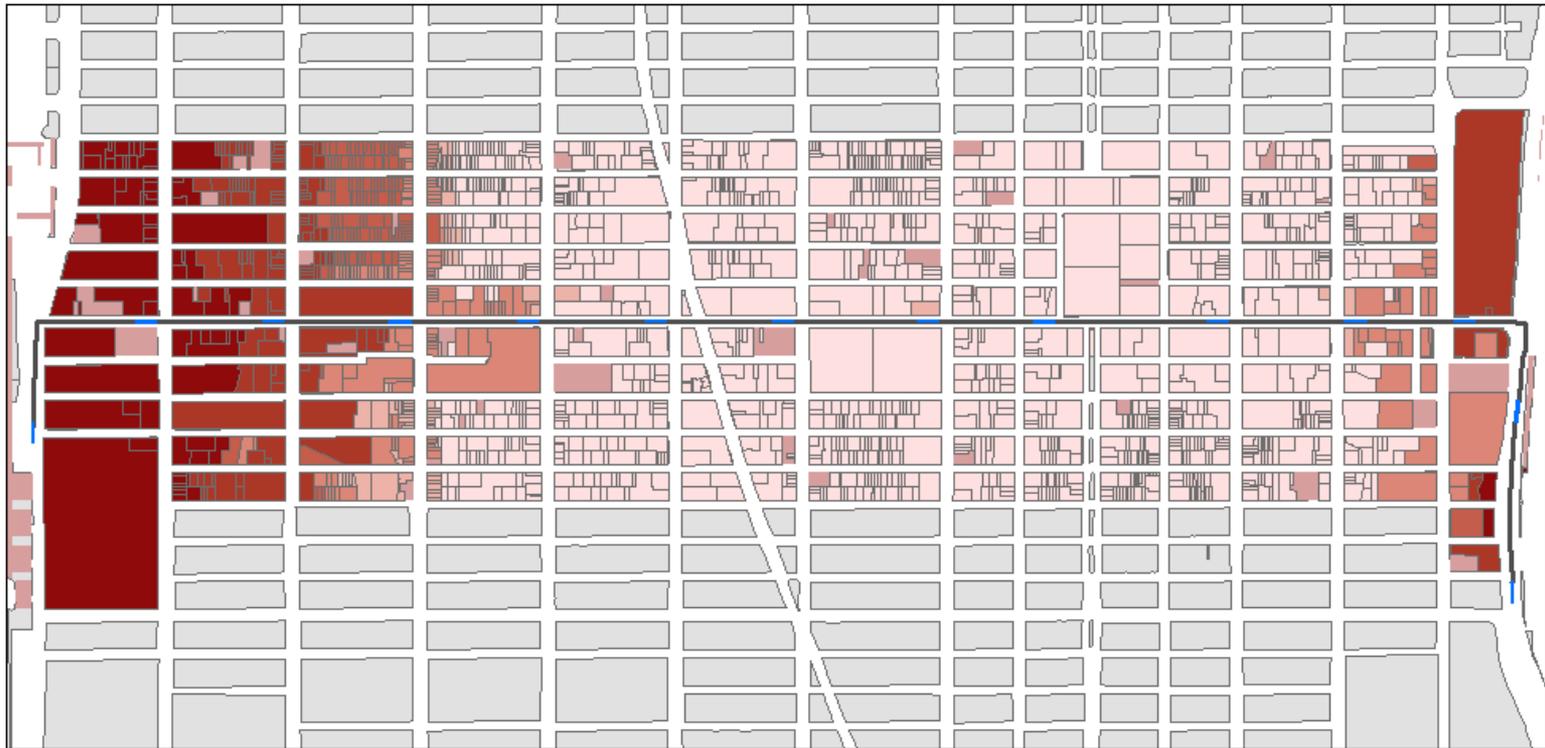


# Increase in Hotel, Retail & Theater Sales on 42<sup>nd</sup> Street

Of 175 establishments on 42<sup>nd</sup> Street, with annual sales of \$665 million, 91 expect more business with LRT service

	<b>Establishments Increasing Business with LRT Service</b>	<b>Aggregate Increase in Annual Sales with LRT Service</b>
Hotel	4	\$8.5 million
Theaters & Other Amusements	14	\$3.4 million
Retail & Restaurants	74	\$11.5 million

# Travel Time Savings via LRT to and from Grand Central Terminal



**Time Savings (Minutes)**  LRT Station Platforms

 0

 LRT Alignment

 <1

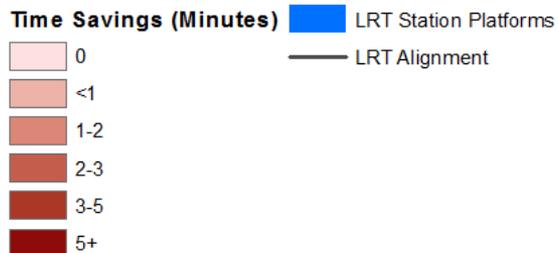
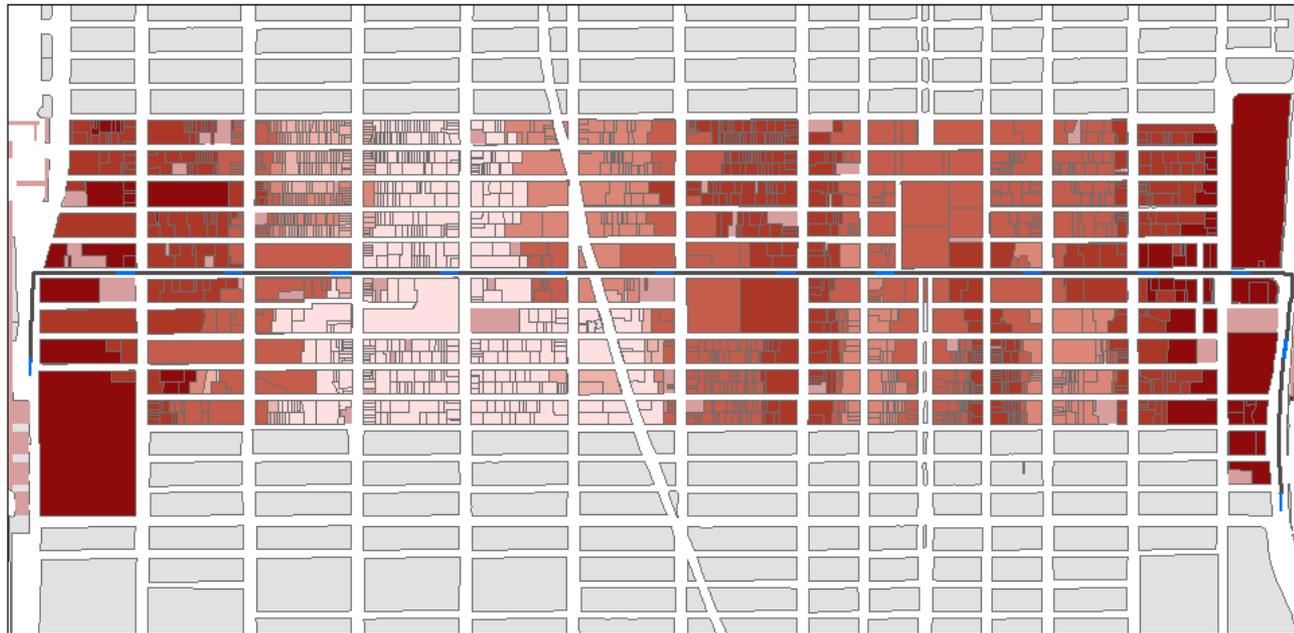
 1-2

 2-3

 3-5

 5+

# Travel Time Savings via LRT to and from Port Authority Bus Terminal





# Travel Time Savings for area workers, residents, visitors

The LRT would shorten the duration of work and leisure trips for area transit takers by a total of some 5.1 million hours per year, valued at \$692.85 million.

	Travel Time Savings (Hours)	Travel Time Savings (millions 2015\$)
<b>Total</b>	<b>5,085,842</b>	<b>\$692.85</b>
<b>Workers</b> (2 trips per day, 250 days per year)	3,351,481	\$326.50
<b>Residents</b> (365 Days per Year)	839,001	\$153.12
<b>Hotel Guests</b> (365 Days per Year)	485,520	\$112.70
<b>Office Visitors</b> (250 days per year)	187,756	\$82.20
<b>Shoppers</b> (365 Days per Year)	108,075	\$15.80
<b>Theatergoers</b> (8 shows per week at 80% capacity)	52,177	\$1.90
<b>University Students</b> (250 days per year)	61,832	\$0.64



# Travel Time Savings for area workers, residents, visitors

By the end of the build-out period, these savings would increase to 5.77 million hours, valued at \$779.71 million.

	Travel Time Savings (Hours)	Travel Time Savings (millions 2015\$)
<b>Total</b>	<b>5,767,522</b>	<b>\$779.71</b>
<b>Workers</b> (2 trips per day, 250 days per year)	3,872,174	\$377.24
<b>Residents</b> (365 Days per Year)	928,657	\$169.48
<b>Hotel Guests</b> (365 Days per Year)	485,520	\$112.75
<b>Office Visitors</b> (250 days per year)	220,217	\$96.36
<b>Shoppers</b> (365 Days per Year)	145,901	\$21.3
<b>Theatergoers</b> (8 shows per week at 80% capacity)	53,221	\$1.92
<b>University Students</b> (250 days per year)	61,832	\$0.64



# Increased NYC and NYS Tax Revenues

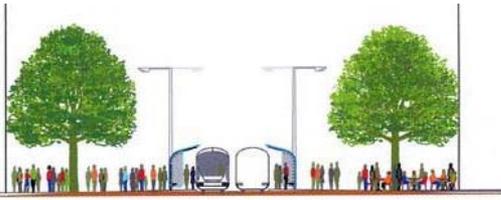
<i>In Millions of FY2015-16 \$</i>	<b>NYC Taxes</b>	<b>NYS Taxes</b>	<b>Grand Total</b>
Property Taxes	\$133.5	\$0.0	\$133.5
Corporation/Franchise Taxes	\$12.4	\$10.0	\$22.4
Personal Income	\$9.8	\$19.0	\$28.8
Commercial Rent	\$6.8	\$0.0	\$6.8
Sales (including sales tax on hotels)	\$1.1	\$0.9	\$2.0
Hotel Occupancy	\$0.5	\$0.0	\$0.5
<b>Total Fiscal Benefit</b>	<b>\$164.1</b>	<b>\$29.9</b>	<b>\$194.0</b>

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## Costs: Construction and Other

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# Estimate of Capital Costs for LRT Alternative LRT Options

Component	catenary system, full utility replcmt	self-powered LRT, full utility replcmt	self-powered LRT, min. utility work
Utility Relocation	\$504.4 M	\$504.5 M	\$298.3 M
All Other Work	283.4 M	302.6 M	271.6 M
<b>Net Capital Cost</b>	<b>\$787.8 M</b>	<b>\$807.1 M</b>	<b>\$569.9 M</b>

Depending upon the chosen option, the annual debt service requirement will range from **\$36.7 million to \$52.0 million.**

*All costs are in 2015 dollars and were adjusted for inflation using ENR's CCI*



# Annual Operating Costs of LRT & Replaced Bus Services

The annual operating costs of the high-quality LRT service will be lower than the bus services it replaces, particularly when measured in terms of the passenger-miles it is able to serve.

<b>Operating costs, annual:</b>	<b>LRT</b>	<b>Replaced bus services</b>
Vehicle operations	\$5,218,510	\$6,893,088
Vehicle maintenance	1,421,003	1,064,527
Non-vehicle maintenance	886,902	61,250
General administration	471,625	61,250
<b>Subtotals</b>	<b>\$7,998,040</b>	<b>\$8,080,115</b>
<b>Cost per Place Mile</b>	<b>\$0.10</b>	<b>\$0.37</b>





# Other Direct Economic Costs

- Cost of traffic diversions for autos, trucks, and taxis from 42<sup>nd</sup> Street to parallel north/south streets and the annual cost of traffic delays from travel diversions to other streets: **\$113 million**, annually.
- Increased cost of deliveries to buildings on 42<sup>nd</sup> Street: **\$441,800** annually.



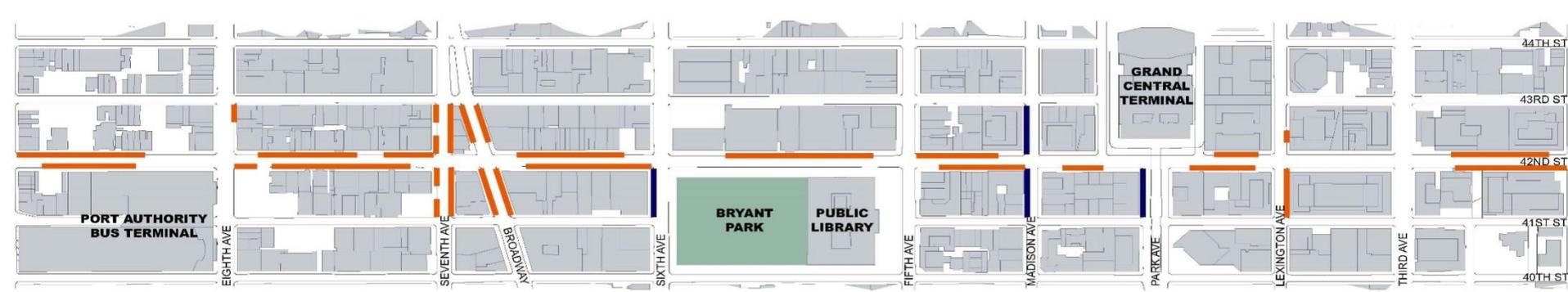
# Freight Entrances between 3rd and 8th Avenues



- TaxLots
  - LRT Alignment
  - <all other values>
- FRGT\_TYPE**
- Storefront
  - DOOR
  - TRUCK
  - GARAGE
  - DRIVE

**Most large office buildings have their freight entrances on 41st or 43rd St., since ground floor rents on 42nd St. are too high for this function.**

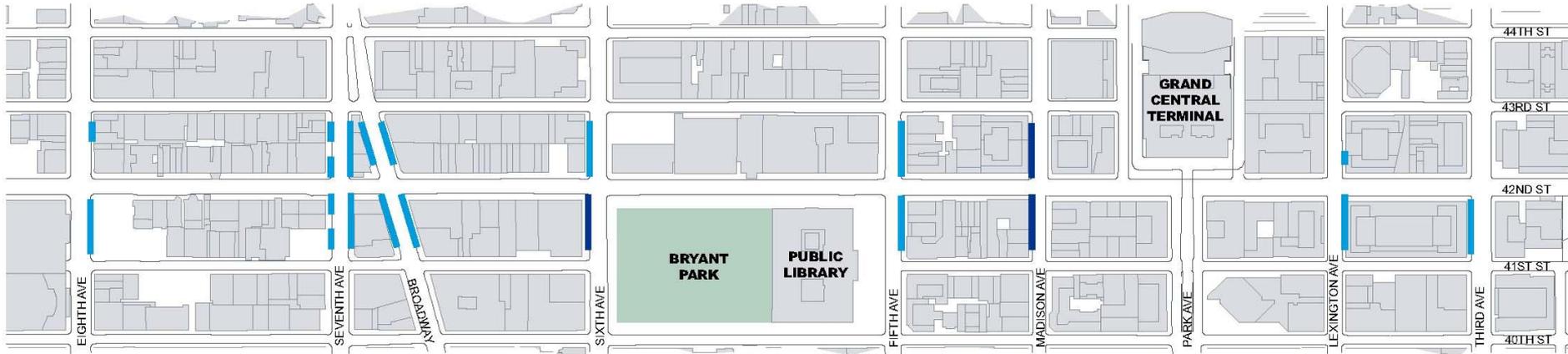
# Traffic Study Inventoried Existing Delivery Truck Parking Locations, 3rd to 8th Avenues



At the peak hours of usage for each curb, the curb foot-minutes currently occupied by delivery trucks were carefully observed and compared with the curb space available.

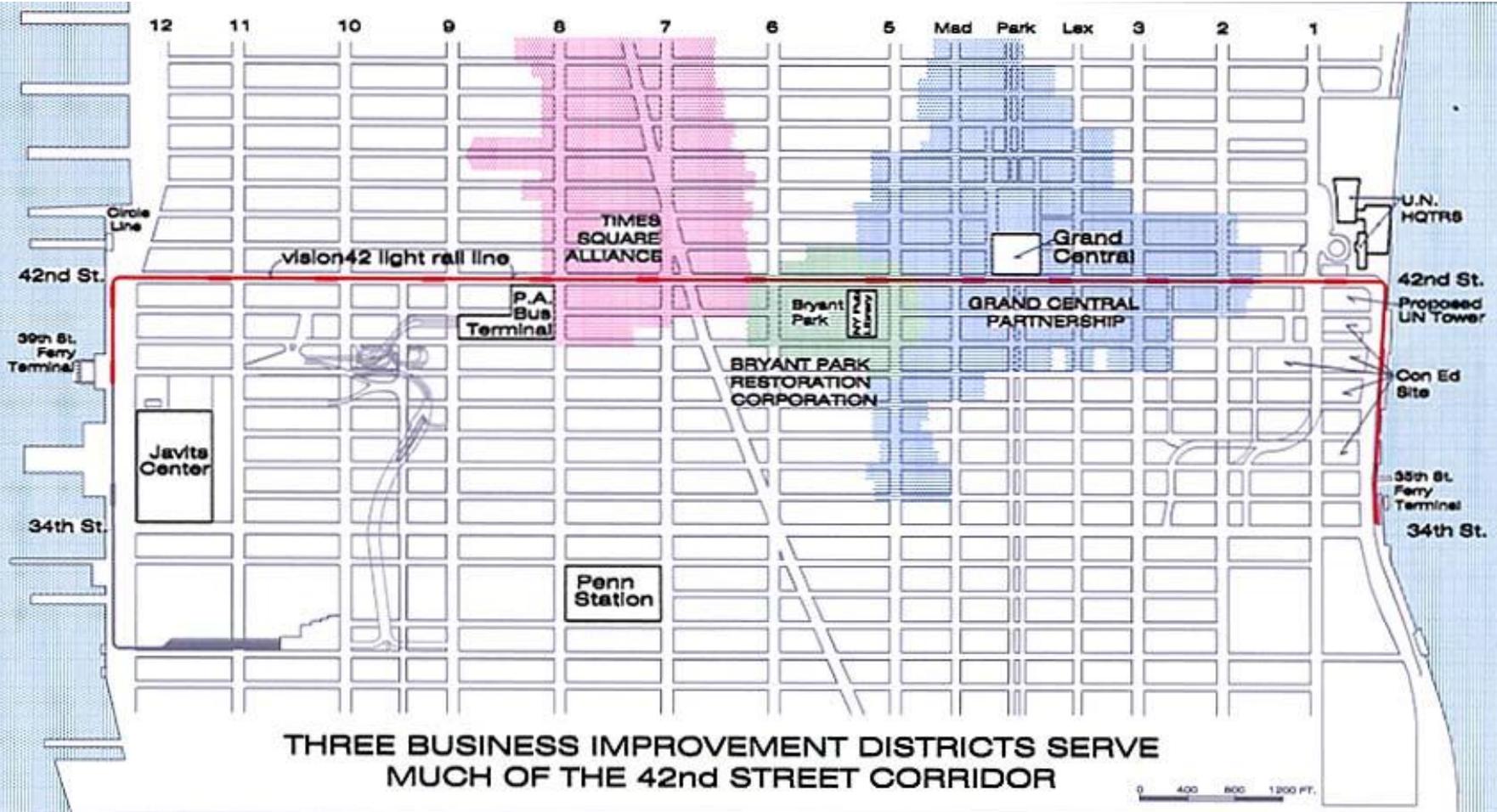
-  EXISTING NO STANDING Except Trucks Loading and Unloading
-  EXISTING NO STANDING Except Commercial Vehicles--Metered Parking (3 Hour Limit)

# Adequate Space for Delivery Truck Parking Locations Would be Reserved on the Avenues



**With some changes in parking regulations, sufficient space for delivery trucks can be provided by reserving curb space on adjacent avenues.**

-  EXISTING NO STANDING Except Trucks Loading and Unloading
-  PROPOSED NO STANDING Except Trucks Loading and Unloading



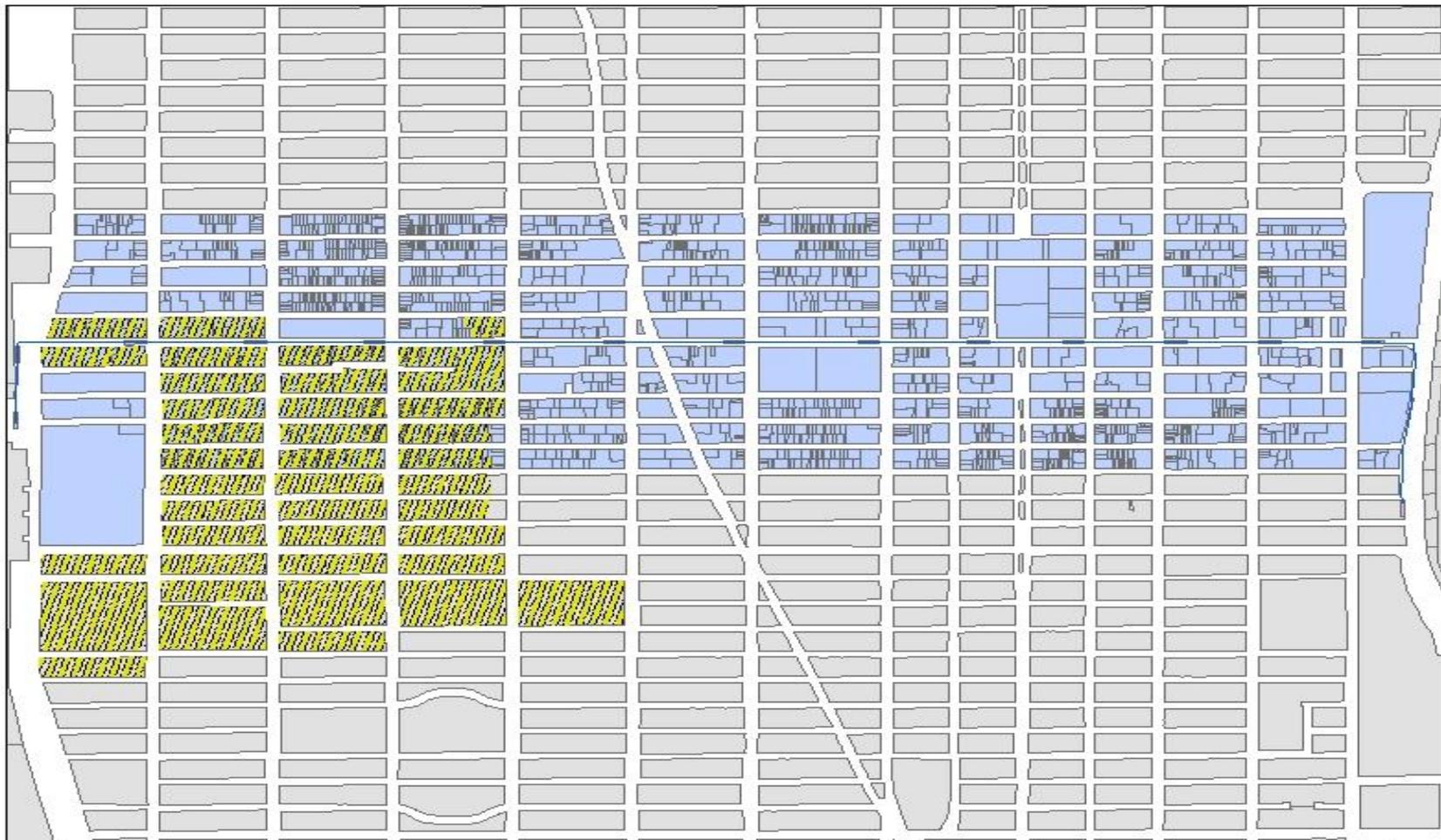
The three Business Improvement Districts that cover much of the 42nd Street corridor could handle maintenance and security of the pedestrian street — the BIDs have expressed openness to extending their areas of responsibility.

# Comparison of Annual Direct Net Benefits to Annual LRT System Costs

Source: Urbanomics, based in part on Halcrow/Langan Studies

<b>Annual</b> Cost-Benefit Component	Value of Direct Benefits or Costs	Cost of LRT Debt Service & Operations	Ratio
<b>Economic Benefit:</b>			
Travel time savings	+ 692.9 million		
Office rent & occupancy increases	+ \$194.6 million		
Accident reduction savings	+ \$1.4 million		
<b>Fiscal Benefit:</b>			
New York City tax revenue increase	+ \$164.1 million		
New York State tax revenue increase	+ \$29.9 million		
<b>Less:</b>			
<b>Economic Costs:</b>			
Increased cost of traffic diversion	- \$112.9 million		
Increased cost of deliveries	- \$0.4 million		
<b>Equals:</b>			
<b>Net Economic &amp; Fiscal Benefit</b>	+ \$969.6 million	\$36.7 - \$52.0 million	26.4:1 – 18.6:1

# STUDY AREA for FINANCING vision42



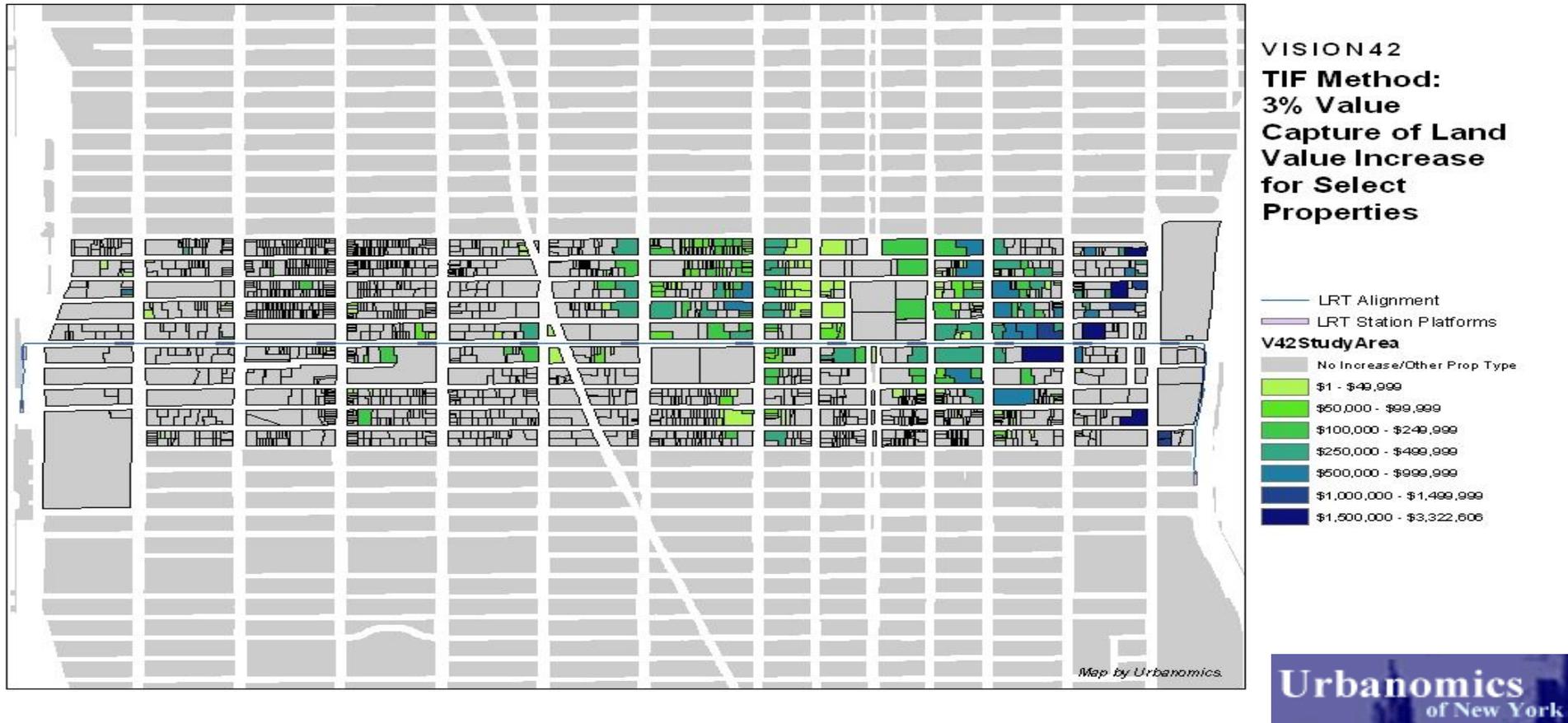
VISION 42  
Study Area  
Hudson  
Financing

## Legend

-  V42 Study
-  Hudson Yards
-  LRT\_Align
-  LRT\_Station

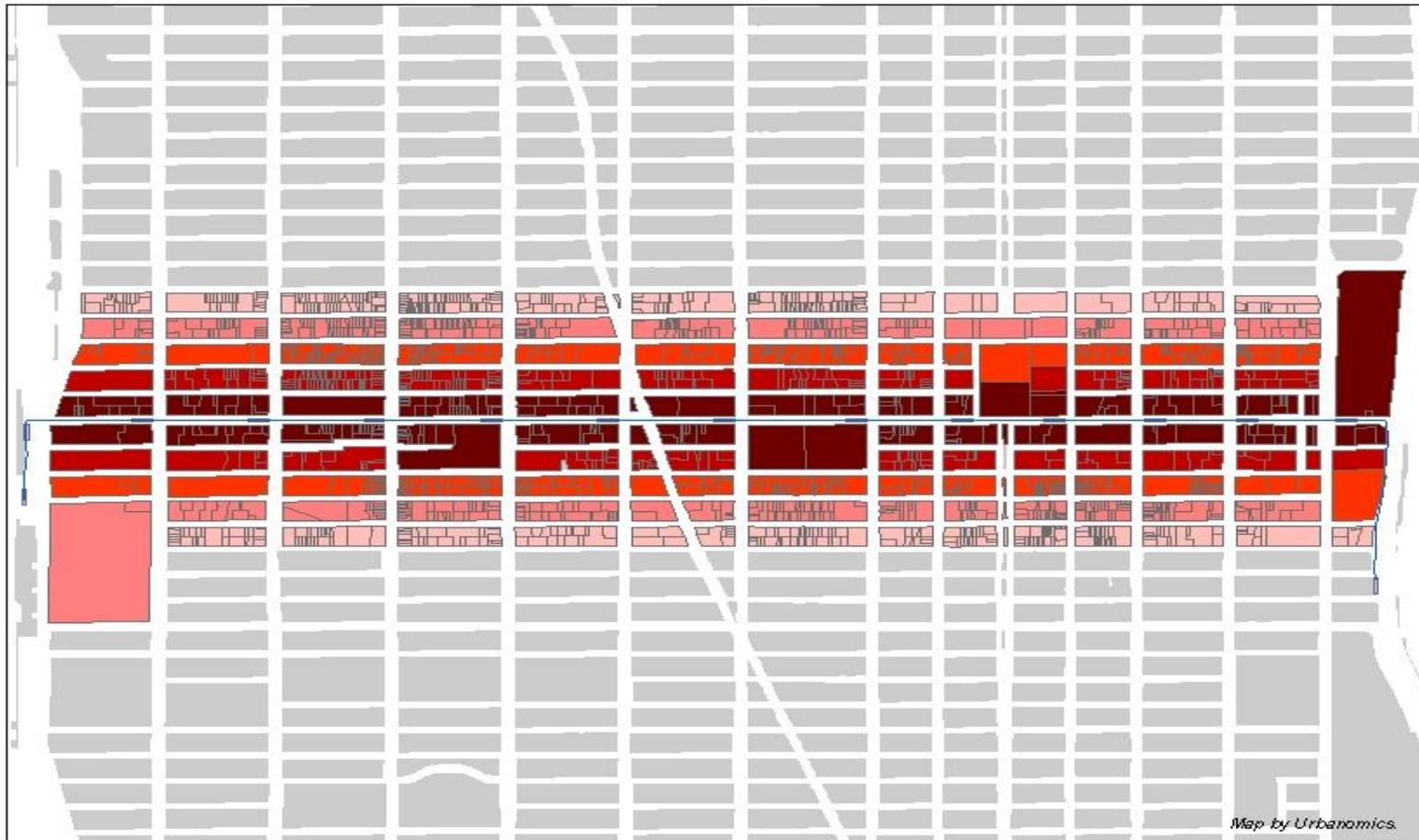
# FINANCING vision42

## TIF method



**Tax Increment Financing (TIF) would apply 3% of land value increases generated by improved transit access, yielding \$53.0 M per year.**

# FINANCING vision42



## VISION42 Benefit District by Gradient

### Legend

- LRT Alignment
- LRT Station Platforms
- District Gradients**
- 1
- 2
- 3
- 4
- 5

Map by Urbanomics.

**A likely option — Gradients of levy would be established corresponding to proximity of each block to the LRT line.**

# FINANCING vision42



VISION42  
TID Method:  
Benefit District  
Surcharge by  
Gradient of Selected  
Property Types

- LRT Alignment
- LRT Station Platform
- V42 Study Area**
- Estimated Surcharge**
- No Charge
- \$1 - \$50,000
- \$50,001 - \$100,000
- \$100,001 - \$200,000
- \$200,001 - \$500,000
- \$500,001 - \$750,000
- \$750,001 - \$1,000,000
- \$1,000,001 - \$1,101,487

Urbanomics  
of New York

Map by Urbanomics.

**Transit Improvement District (TID)—levies would be established as a percent (from 1 to 5%) of current tax rates yielding \$66.8 M per year.**



# Conclusion

Value capture mechanisms can fund **vision42**, *without* diverting scarce MTA or other NYC revenues.

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**interfacing with ferry terminals at both rivers — and in the process, making ferry travel more attractive and ferry operations more efficient**



**connecting massive residential towers and theaters to Midtown's center**



**pedestrians at Times Square will greatly benefit from more walking space**



**linking major terminals to Midtown's east and west extremities**



**creating a fittingly ceremonial approach to the United Nations**