

IMG AABEL

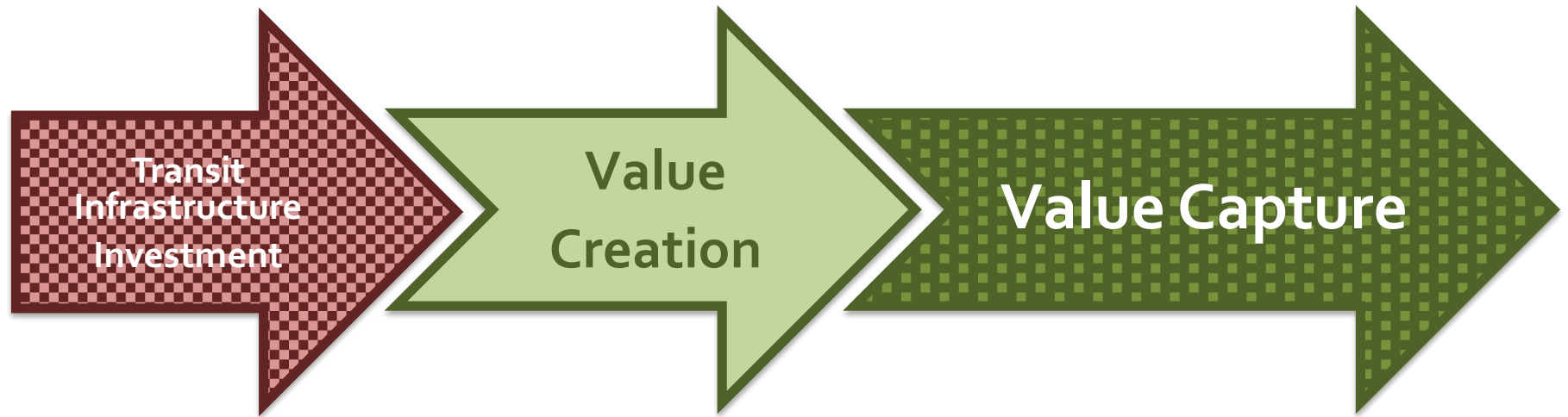


**6th National Bus Rapid Transit Conference:
BRT and Value Capture**
Sasha Page, June 19, 2018

OVERVIEW



































- Research questions:
 - Does BRT have a positive impact on land values, property, rents?
 - Can some of this value be captured?
- Presentation organization:
 - Professional literature: ITDP and West Broadway study
 - International literature
 - Academic literature:
 - Pittsburgh, Boston, Cleveland, Eugene
 - BRT and office and BRT in comparison
 - Explaining value capture and relationship to BRT
 - Conclusions








OVERVIEW: Value creation is key element of value capture (VC)



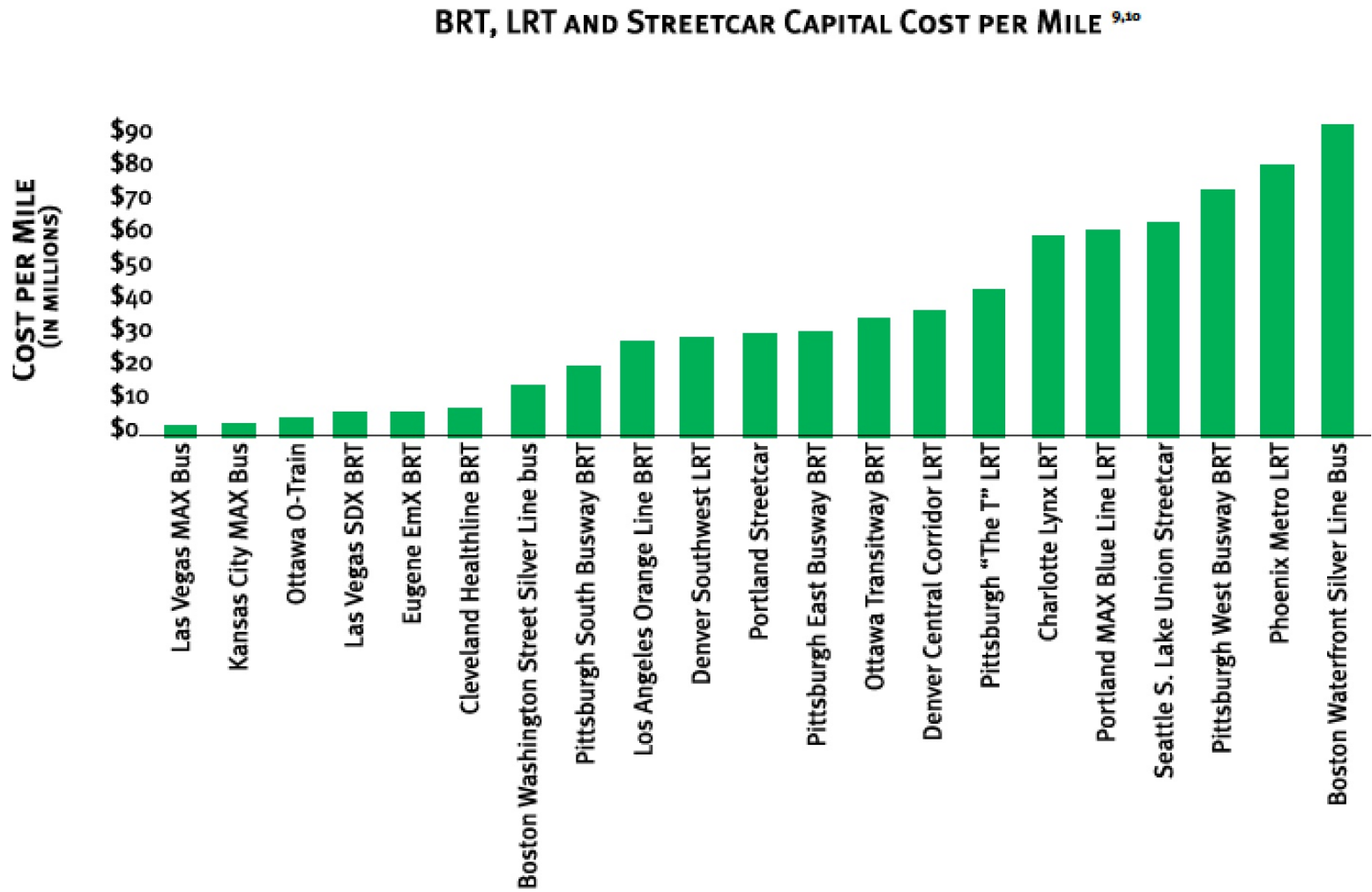
ITDP: BRT creates TOD (as does LRT, SCT)

Table 11. TOD investments of the corridors show little correlation to their BRT Standard score.

CORRIDOR	BRT STANDARD	TOTAL TOD INVESTMENT (IN MILLIONS)	DEVELOPMENT PER DOLLAR OF TRANSIT (IN MILLIONS)
STRONG			
 Cleveland HealthLine		\$5,800	\$114.54
 Kansas City Main Street Metro Area Express (MAX)	Below Basic	\$5,200	\$101.96
 Seattle South Lake Union (SLU) Streetcar	Below Basic	\$3,000	\$53.57
 Portland Streetcar	Below Basic	\$4,500	\$41.48
 Portland MAX Blue Line		\$6,600	\$3.74
MODERATE			
 Las Vegas Strip & Downtown Express (SDX)		\$2,000	\$42.28
 Boston Washington Street Silver Line	Below Basic	\$650	\$20.97
 Denver Central Corridor		\$2,550	\$14.88
 Eugene Emerald Express Green Line (EmX)		\$100	\$3.96
 Pittsburgh Martin Luther King, Jr. East Busway		\$903	\$3.59
 Phoenix Metro		\$2,820	\$1.99
 Ottawa Transitway		\$1,000	\$1.71
 Charlotte Lynx		\$810	\$1.66
 Boston Waterfront Silver Line	Below Basic	\$1,000	\$1.39
 Los Angeles Orange Line		\$300	\$0.83
 Denver Southwest Corridor		\$160	\$0.71
WEAK			
 Ottawa O-Train		nominal	nominal
 Pittsburgh "The T"		nominal	nominal
 Las Vegas Metropolitan Area Express (MAX)	Below Basic	nominal	nominal
 Pittsburgh West Busway	Basic BRT	nominal	nominal
 Pittsburgh South Busway	Basic BRT	nominal	nominal

 Bus Rapid Transit
  Bus
  Streetcar
  Light Rail Transit
  BRT Standard Gold
  BRT Standard Silver
  BRT Standard Bronze

**ITDP:
BRT
costs
less per
mile
than
LRT &
SCT—
50% or
more**



Graph 1. Capital Cost per mile of BRT, LRT and Streetcar in 2010 US dollars.



































ITDP: BRT serves similar riders per mile – now and in many markets in future given demonstrations of BRT capacity

Table 12. TOD investments of the corridors studied have little correlation to their years open and riders per mile.

	CORRIDOR	YEARS OPEN	RIDERS PER MILE	TOTAL TOD INVESTMENT (MILLIONS)
LRT	Portland MAX Blue Line	26	2,011	\$6,600
BRT	Cleveland HealthLine	5	2,225	\$5,800
BUS	Kansas City Main Street Metro Area Express (MAX)	8	450	\$5,200
SC	Portland Streetcar	12	2,850	\$4,500
SC	Seattle South Lake Union (SLU) Streetcar	6	3,000	\$3,000
LRT	Phoenix Metro	5	2,089	\$2,821
LRT	Denver Central Corridor	19	11,845	\$2,550
BRT	Las Vegas Strip & Downtown Express (SDX)	3	6,716	\$2,000
BRT	Ottawa Transitway	30	12,842	\$1,000
BUS	Boston Waterfront Silver Line	9	1,528	\$1,000
BRT	Pittsburgh Martin Luther King, Jr. East Busway	30	2,637	\$903
LRT	Charlotte Lynx	6	1,505	\$810
BUS	Boston Washington Street Silver Line	9	8,376	\$650
BRT	Los Angeles Orange Line	8	2,324	\$300
LRT	Denver Southwest Corridor	13	2,039	\$160
BRT	Eugene Emerald Express Green Line (EmX)	6	2,500	\$100
BUS	Las Vegas Metropolitan Area Express (MAX)	9	986	nominal
LRT	Ottawa O-Train	12	1,800	nominal
LRT	Pittsburgh "The T"	29	1,088	nominal
BRT	Pittsburgh West Busway	13	1,650	nominal
BRT	Pittsburgh South Busway	36	2,153	nominal

BRT Bus Rapid Transit BUS Bus SC Streetcar LRT Light Rail Transit

ITDP: BRT
TOD (and
LRT, SCT)
thrives when
public policy
support it—
and the
corridor is
positioned for
value
creation

CORRIDOR	BRT STANDARD	LAND POTENTIAL	GOVERNMENT TOD SUPPORT	TOTAL TOD INVESTMENT (IN MILLIONS)	DEVELOPMENT PER TRANSIT DOLLAR (IN MILLIONS)
STRONG					
 Cleveland HealthLine		Emerging	Strong	\$5,800	\$114.54
 Kansas City Main Street Metro Area Express (MAX)	Below Basic	Strong	Strong	\$5,200	\$101.96
 Seattle South Lake Union (SLU) Streetcar	Below Basic	Strong	Strong	\$3,000	\$53.57
 Portland Streetcar	Below Basic	Strong	Strong	\$4,500	\$41.48
 Portland MAX Blue Line		Emerging	Strong	\$6,600	\$3.74
MODERATE					
 Las Vegas Strip & Downtown Express (SDX)		Strong	Moderate	\$2,000	\$42.28
 Boston Washington Street Silver Line	Below Basic	Emerging	Moderate	\$650	\$20.97
 Denver Central Corridor		Strong	Moderate	\$2,550	\$14.88
 Eugene Emerald Express Green Line (EmX)		Emerging	Moderate	\$100	\$3.96
 Pittsburgh Martin Luther King, Jr. East Busway		Emerging	Moderate	\$903	\$3.59
 Phoenix Metro		Emerging	Moderate	\$2,820	\$1.99
 Ottawa Transitway		Emerging	Moderate	\$1,000	\$1.71
 Charlotte Lynx		Emerging	Moderate	\$810	\$1.66
 Boston Waterfront Silver Line	Below Basic	Strong	Moderate	\$1,000	\$1.39
 Los Angeles Orange Line		Emerging	Moderate	\$300	\$0.83
 Denver Southwest Corridor		Limited	Moderate	\$160	\$0.71
WEAK					
 Ottawa O-Train		Limited	Weak	nominal	nominal
 Pittsburgh "The T"		Limited	Weak	nominal	nominal
 Las Vegas Metropolitan Area Express (MAX)	Below Basic	Limited	Weak	nominal	nominal
 Pittsburgh West Busway	Basic BRT	Limited	Weak	nominal	nominal
 Pittsburgh South Busway	Basic BRT	Limited	Weak	nominal	nominal

INTERNATIONAL: BRT generally positively impacts land values and real estate

Study	Relative Impact
Bogotá, Columbia (Rodríguez and Targa, 2004)	Residential rents increased by 6.8 to 9.3% for every five minutes walking time to nearest BRT station
Bogotá, Columbia (Rodríguez and Mojica, 2009)	Asking price of properties within BRT catchment areas were 7 to 14% higher than that in control areas;
Bogotá, Columbia (Munoz-Raskin, 2010)	Some price premium was found with respect to middle-income residential property and distance from nearest BRT station, but not for low-income residential property
Seoul, South Korea (Cervero and Kang 2011)	Within 300 meters of BRT stations residential land values increased from 5 to 10%
Quebec City (Dubé, Thériault and Dib, 2011)	Proximity to Quebec City Métrobus nearest BRT station increased housing prices from 2.9 to 6.9%

BOSTON SILVER LINE, 2003: Sale price was positive and increasing as distance from a station increased

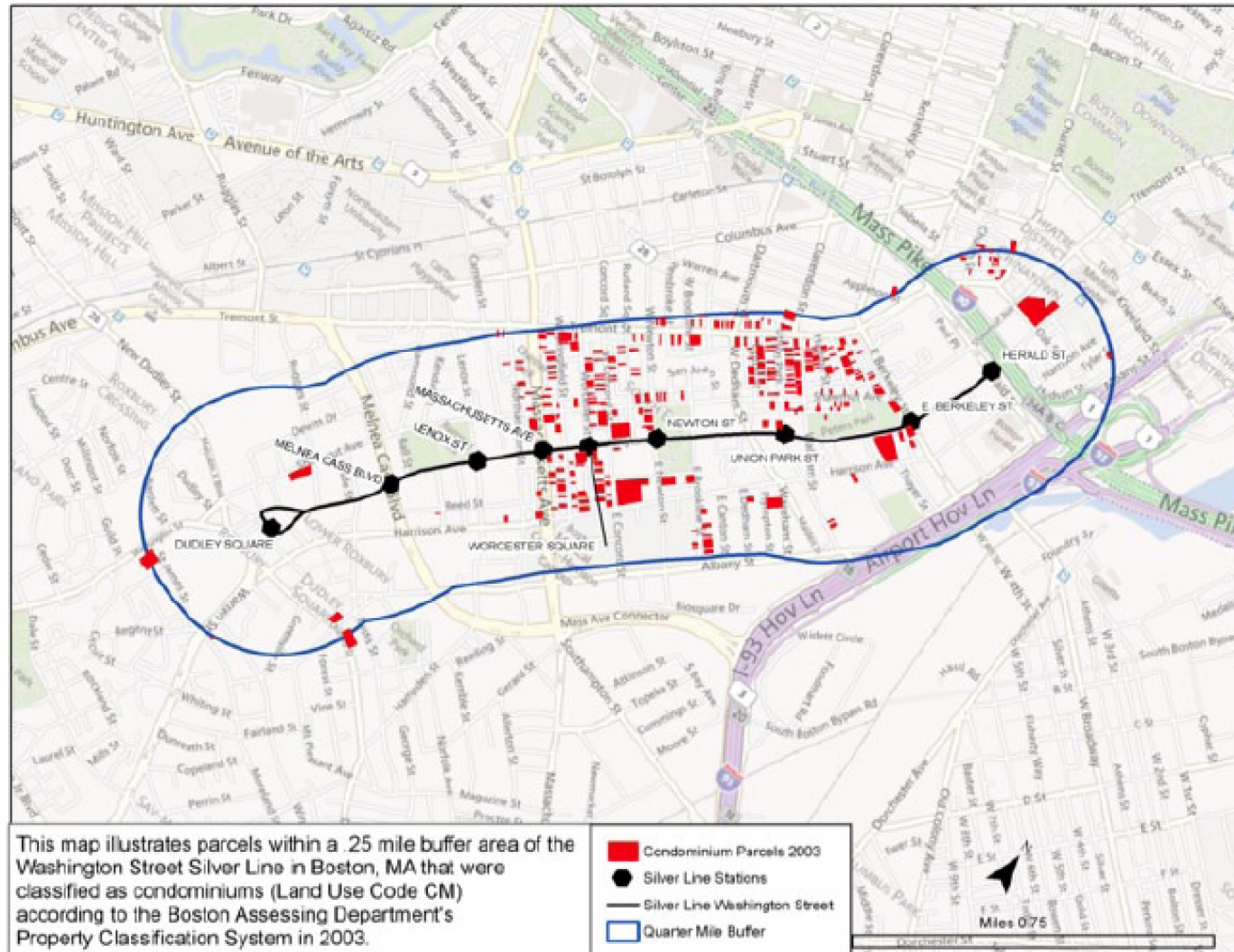


Figure 6-1 *Parcels classified as Condominium, 2003*

BOSTON SILVER LINE, 2009: sale price negative & decreasing as distance from station increased—7.6%

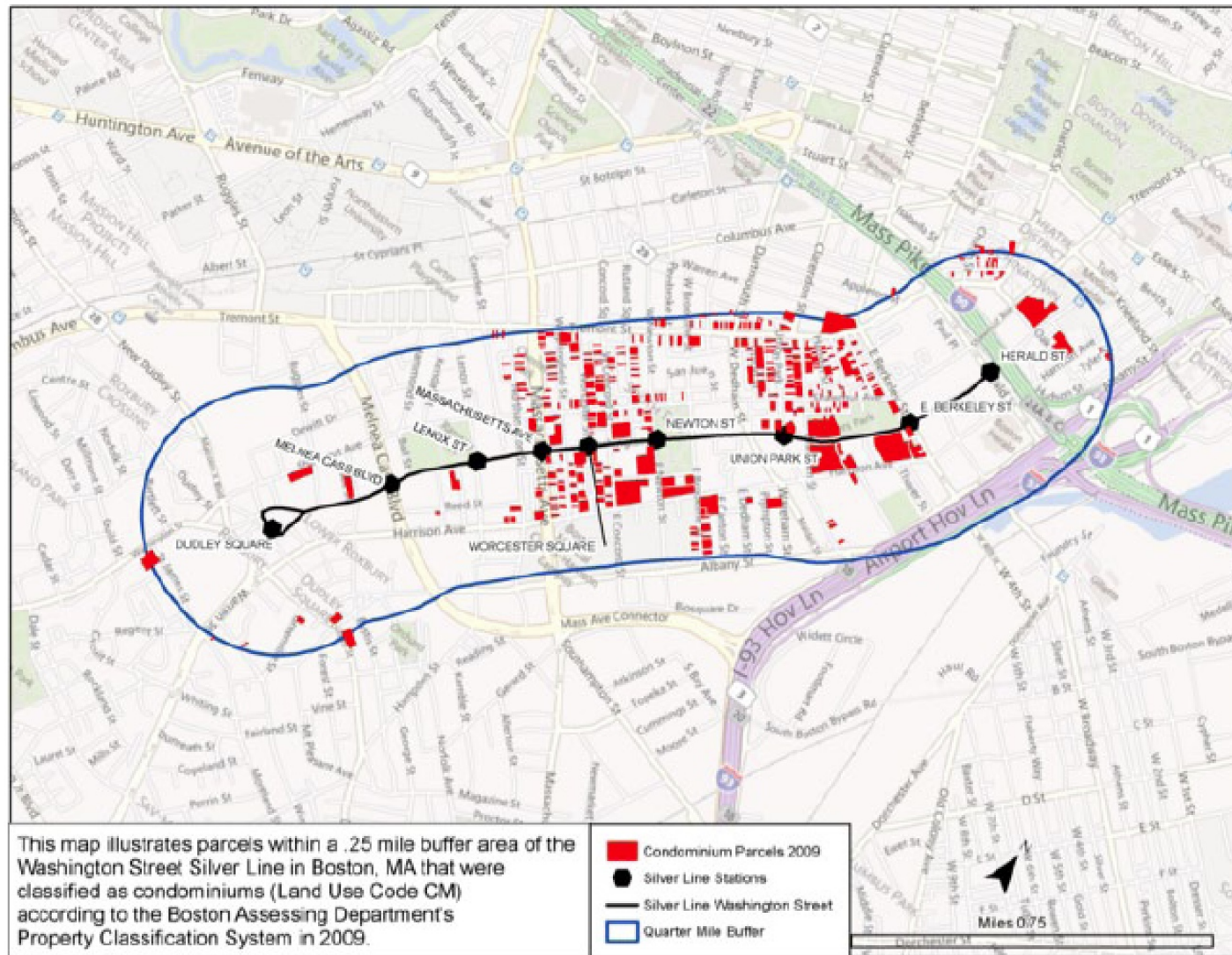
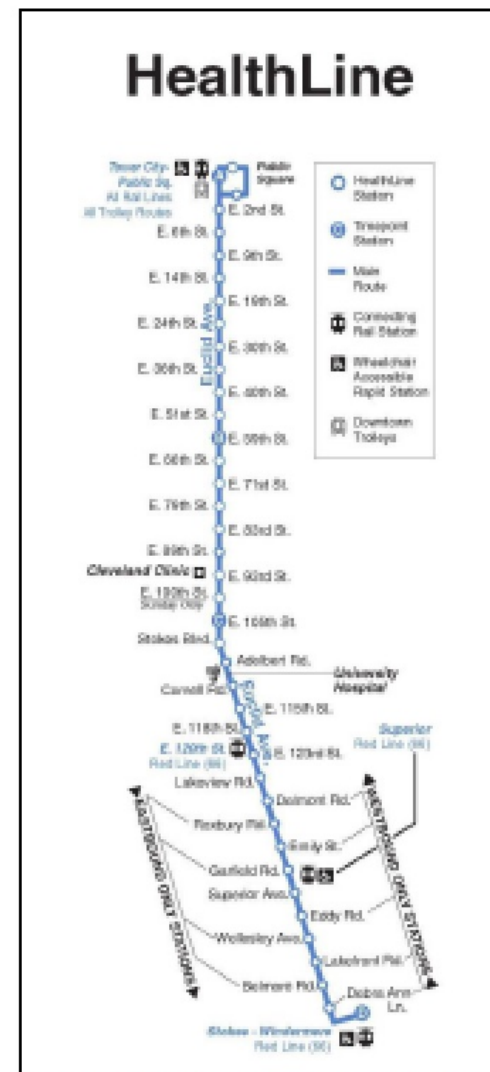


Figure 6-2 *Parcels classified as Condominium, 2009*

CLEVELAND HEALTHLINE: Moderately healthy home value impact—3.7%

- Major “Silver-Rated” BRT connecting two major urban activity areas
- A home located a half-mile or less from the nearest BRT station would have an estimated sale price **3.7 percent** more than a home outside of that distance
- Due to data collection—before and after the recession, some of the results are not significant
- Further time-series data would help
- Value capture: \$6.25M naming rights agreement



Source: Greater Cleveland Regional Transit Authority (GCRTA).
Used with permission from Stephen Bitto, GCRTA (sbitto@gcrt.org).
(See Appendix C)

Figure 4.3. Cleveland HealthLine Stations

NELSON OFFICE RENTS: BRT corridor location and office rent premium

Location of BRT System	Nearby and Downtown Centers	Central County
Cleveland	18%	
Eugene-Springfield	12%	
Kansas City	18%	
Las Vegas		30%
Pittsburgh		9%

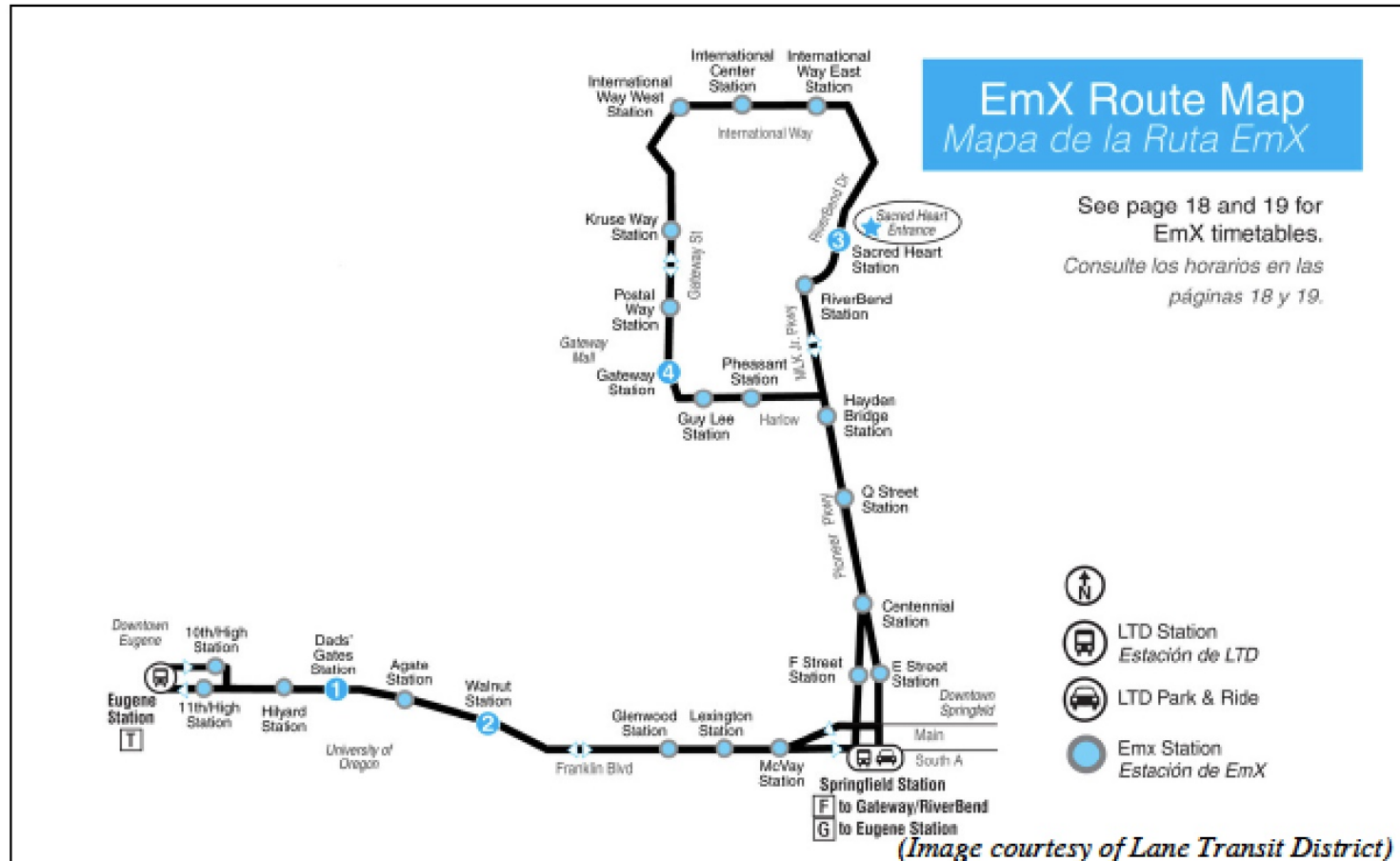
NELSON TRANSIT AND REAL ESTATE RENTS: BRT impacts residential, but not retail, office

Summary of the Association between Location in <0.5 mile and 0.5 to 1.0 mile Transit Corridors and Office, Retail and Apartment Space Asking-Rents

Mode Distance Band	Office	Retail	Apartment
BRT<0.50	ns	-2.5%	3.0%
BRT0.50-1.00	ns	ns	1.7%
LRT<0.50	ns	2.5%	4.5%
LRT0.50-1.00	2.3%	2.1%	2.5%
CRT<0.50	-2.2%	-3.5%	ns
CRT0.50-1.00	ns	-2.3%	ns
SCT<0.50	5.0%	6.3%	10.8%
SCT0.50-1.00	3.9%	ns	9.0%

ns means not significant

EUGENE EmX: Full-featured BRT system operating for most of route along exclusive median guideway



EUGENE EmX: Overall small yet significant; sometimes major impact, depending on house price

Year	100-Meter Decrease to Station	Single-Family Home Sale			BRT Impact on Housing		
		Min	Mean	Max	Min	Mean	Max
2005	\$823	\$45,000	\$221,504	\$599,900	0.14%	0.37%	20.32%
2010	\$1,056	\$66,000	\$248,485	\$599,900	0.18%	0.42%	26.56%
2016	\$1,128	\$50,000	\$316,507	\$599,900	0.19%	0.36%	15.80%

MINNEAPOLIS WEST BROADWAY: 2X SCT land value premium over BRT due to developer perception of absorption, permanence & place-making

Table 10: Estimated Property Value Premiums (Above Baseline), Year 1 and Year 10

	BRT			Streetcar		
	Residential	Retail	Office	Residential	Retail	Office
Year 1	2.5%	2.5%	2.5%	5.0%	5.0%	5.0%
Year 10	4.0%	4.0%	4.0%	8.0%	8.0%	8.0%

Source: HR&A

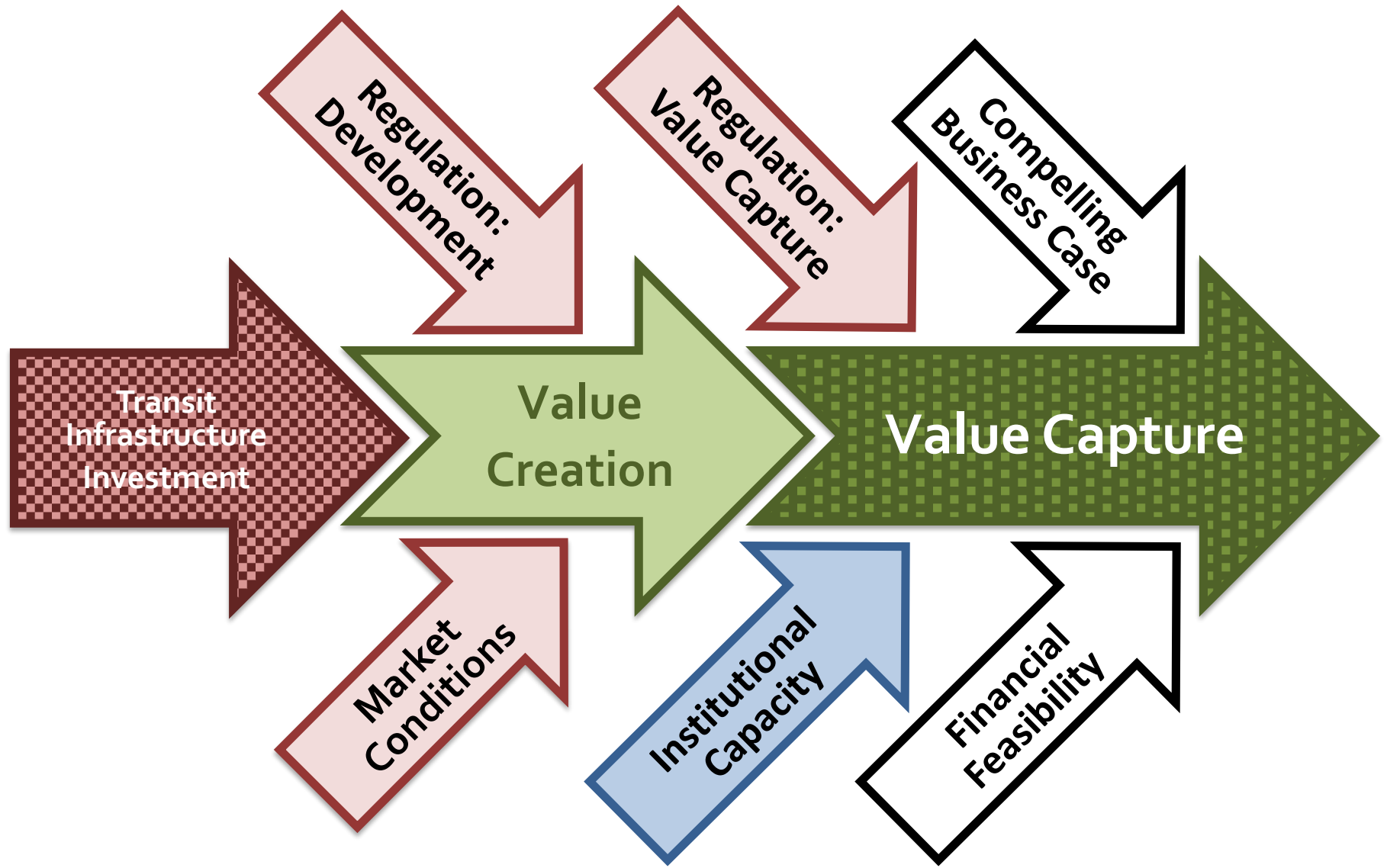
CONCLUSION: BRT positively impacts land values, real estate, jobs—in many instances

Location of BRT System	Relative Impact
International – Quebec housing prices	2.9 to 6.9%
Pittsburgh East MLK Busway - Housing	11.0%
Boston Silver Line – Condo prices	7.6%
Cleveland Health Line – Home prices	3.7%
Eugene EMX –Single-family home sale 2016	0.36%
Cleveland - Office Rent	18.0%
Eugene-Springfield - Office Rent	12.0%
Kansas City - Office Rent	18.0%
Las Vegas - Office Rent	30.0%
Pittsburgh - Office Rent	9.0%
SCT vs. LRT vs. BRT Apartment Impact	10.8% vs. 4.5% vs. 3.0%

CONCLUSION: Valid Argument “BRT has less impact but it is A LOT cheaper?”

- Current research strong suggests that BRT has, in general, positive impact on land and property values, but smaller than LRT, SCT—maybe half as much or more?
- SCT and LRT can be more expensive—maybe double or more?
- BRT vs. LRT/SCT decision should first of all be based on transportation benefits
 - Should consider overall needs
 - Conduct benefit/cost analysis
- **If transportation benefit/costs are similar and BRT real estate impact is better than half of LRT, isn't that argument for BRT?**
- Regardless, BRT real estate impact could assist in financial plan if value that is created can be captured—and FTA is pleased with value capture effort under new policies

VALUE CAPTURE TOOLS: Some best practices are required for optimal VC



VALUE CAPTURE TOOLS: Leverage new funding sources as TCRP/APTA-guide shows; eventually for financing

Value Capture Tool	Application	BRT Funding	Rail Financing
Joint Development	Property development	?	✓
Naming Rights	Payment for naming station or corridor	✓	?
Parking fees	District or citywide	✓	?
Special Assessments Districts	District landowners pay based on assessed value or floor area	?	✓✓
Tax Increment Financing (TIF)	Tax increments from districts around stations	✓	✓

Source: "Guide to Value Capture Financing for Public Transportation Projects: <https://www.nap.edu/download/23682>

KANSAS CITY STREETCAR: Implemented “extreme” SAD on all properties

- 2.2-mile starter streetcar line with 11 stations, 10-minute headways
- Opened in 2016 with 5,855 riders/day on average
- \$103M project, funded with:
 - \$40M grants
 - \$63M transportation development district bonds secured by:
 - **SAD on commercial, residential, city, & non-profit property**
 - **District sales taxes**
 - **Parking assessments**



Source: Kansas City Streetcar Project, 2016

CONCLUSION: BRT thrives when corridor is positioned for development—due to policies and site potential

- Along Kansas City Troost MAX, employment growth outside of Downtown is **largely driven by major hospitals**
- Worst-performing BRT line in Nelson analysis was Pittsburgh's South Line due in part that **has more economic development challenges** than other parts of Allegheny County; other two BRT lines operating in region are among best performers
- Las Vegas Max line **serves historically under-invested area** that has largely been bypassed by recent economic investment
- ITDP: **Land potential and government support** drives TOD
- Value capture realized when transit agency, local government, and developer **create corridors and captured value through:**
 - Naming rights as in HealthLine
 - TIFs—could have been HealthLine

CONCLUSION: Further research needs

- Future projects to evaluate:
 - CTFAstrak, Hartford-New Britain
 - Grand Rapids Silver Line
 - Seattle Madison Streetcar
- Cleveland:
 - How much would TIF have paid for Cleveland Healthline?
 - Update Cleveland study with most recent data
- In general:
 - Need longer time series—10 years or more
 - Go beyond recession, although these are part of business cycle
 - Impact of transportation network companies, shared mobility, and automation?

Contact

Sasha Page

IMG Rebel

SPage@IMGRebel.com

301-675-3102

- Download Guide at: <https://www.nap.edu/download/23682>
- Further material is available at: www.IMGRebel.com

