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# Land Value Return for Transportation Funding & Land Use Integration

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TPB CAC
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Disclaimer: The views expressed are those of the author and do not represent the views of the Transportatin Planning Board

# Land Value Return for Transportation Funding & Land Use Integration

- Why Does Transportation Infrastructure Under Perform?
  - Infrastructure Conundrum
  - No Good Deed Goes Unpunished
- The Role of Land Speculation
- Land Value Return As A Remedy
  - Sustainable & Equitable Funding
  - Land Use Integration

# Problems Associated with Urban Sprawl

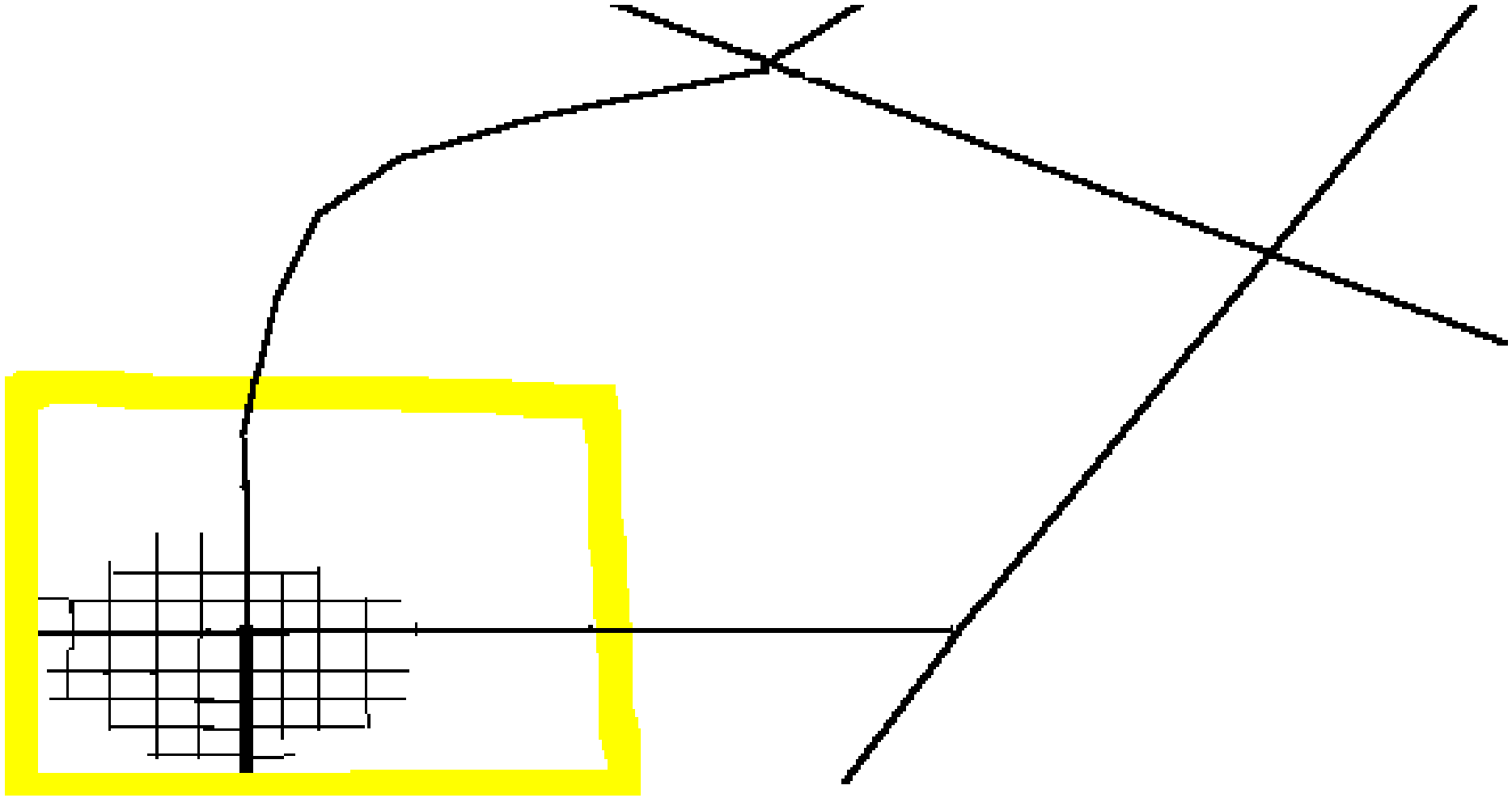
- "Sprawl" is low density, discontinuous and segregated land use. Walking & cycling are typically inconvenient if not impossible. Transit, which depends on many people going the same direction at the same time, is typically inefficient and inconvenient. Almost every activity outside the home must be accessed by an automobile trip.

- "Smart Growth" was coined during the 1980s or 1990s as a reaction aga3inst "urban sprawl." The notion is that development ("infill development") should occur where infrastructure already exists.

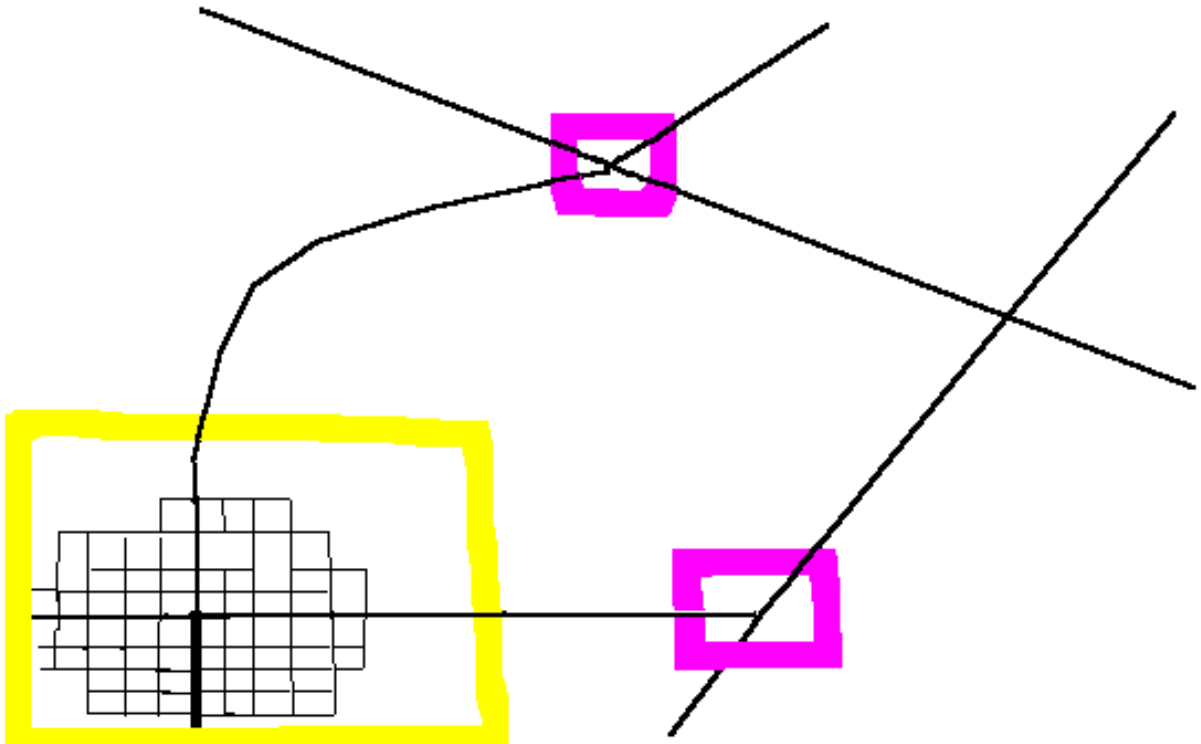
- Planners convened conferences extolling the virtues of smart growth.

- But, if Smart Growth is so "smart," why is there so much dumb growth and sprawl?

# Transportation & Land Use:
# The Infrastructure Conundrum

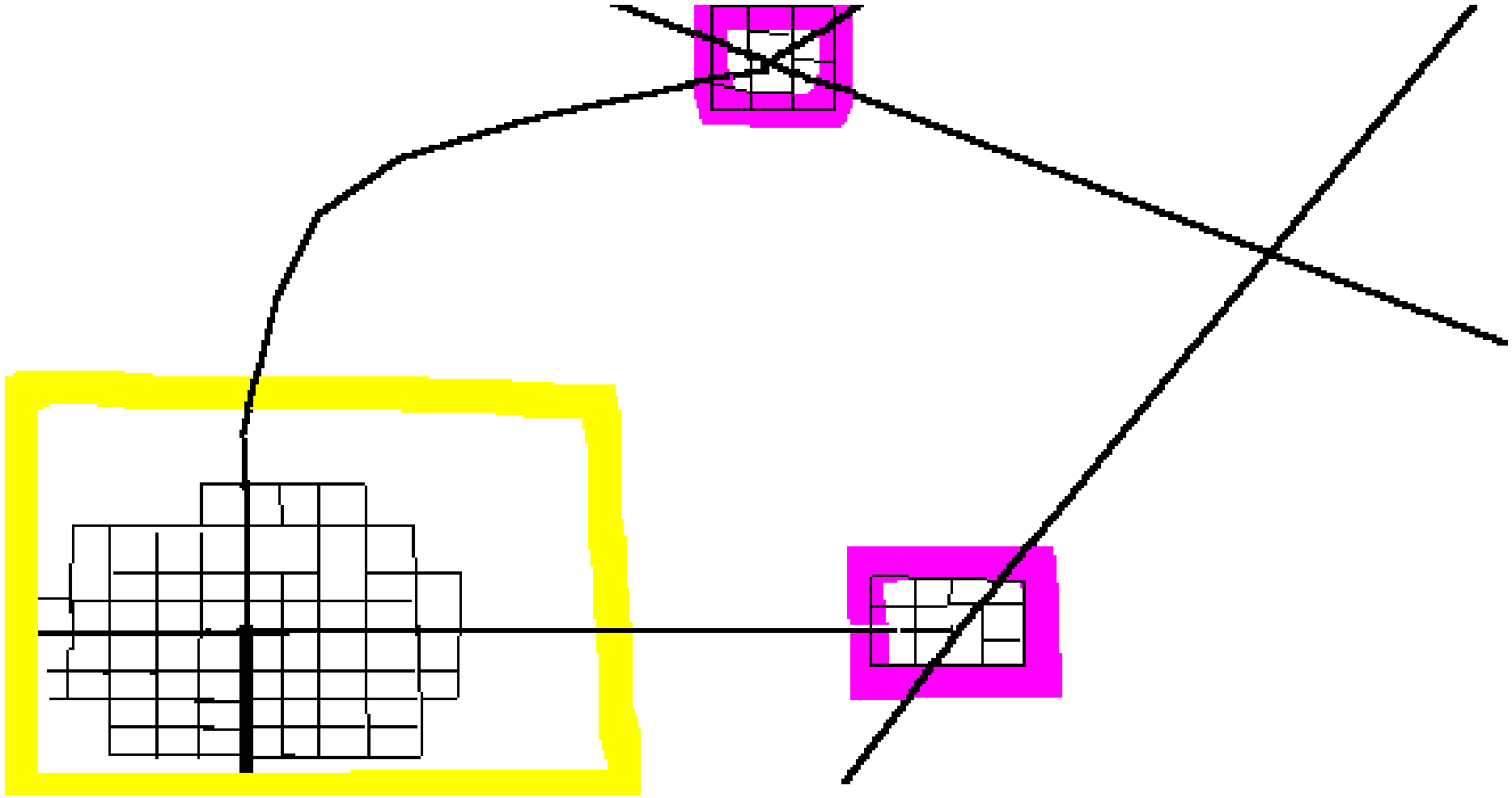


# Transportation & Land Use: The Infrastructure Conundrum

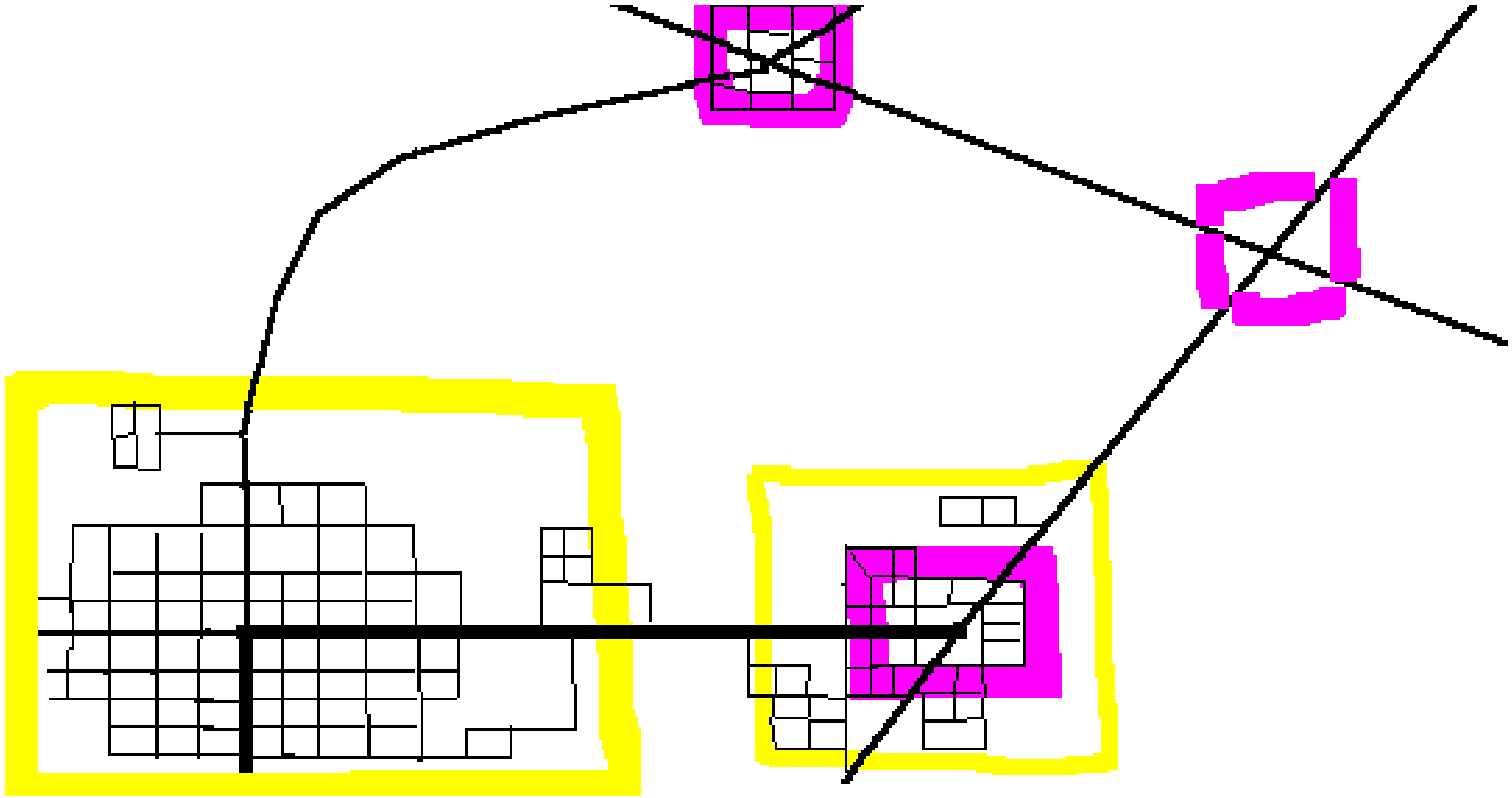


Rising Land Costs Impede Growth

# Transportation & Land Use:
# The Infrastructure Conundrum



# Transportation & Land Use: The Infrastructure Conundrum



# The Infrastructure Conundrum

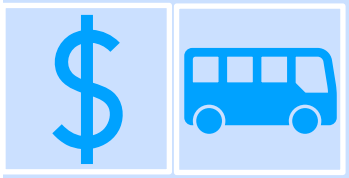
- Communities create infrastructure to facilitate development.
- Infrastructure inflates the price of well-served land.
- Higher land prices push development to cheaper, but more remote sites.
- Communities run after new development with more infrastructure, but never catch up.
- **The resulting sprawl impairs the environment, creates auto dependency and traffic congestion, and strains our budgets due to the duplication of expensive infrastructure in low-density areas.**

# “No Good Deed Goes Unpunished”

- In a working-class neighborhood of London, people had to pay a toll to get to their jobs on the other side of a river.
- The public felt this was unfair & asked government to remove the toll.
- Within a short time after the toll was removed, rents in the neighborhood rose by the amount of the foregone toll.
- Workers were not better off.  (Worse off if they didn’t use the bridge.)
- Public funds, spent to help low-income residents, enriched landlords instead.

-- Winston Churchill Address to Parliament, 1903

# “No Good Deed Goes Unpunished”



To help low-income communities, we might improve:

- Schools
- Public Safety
- Access to Jobs & Education (Better Roads / Transit)



If we accomplish any of these improvements, land prices rise, rents rise, and the intended beneficiaries might be displaced.



Tax dollars, intended to help the poor, end up enriching landowners (who tend <u>not</u> to be poor).



# What Is Responsible for the Infrastructure Conundrum and the “No Good Deed Goes Unpunished” Scenario?





# LAND SPECULATION

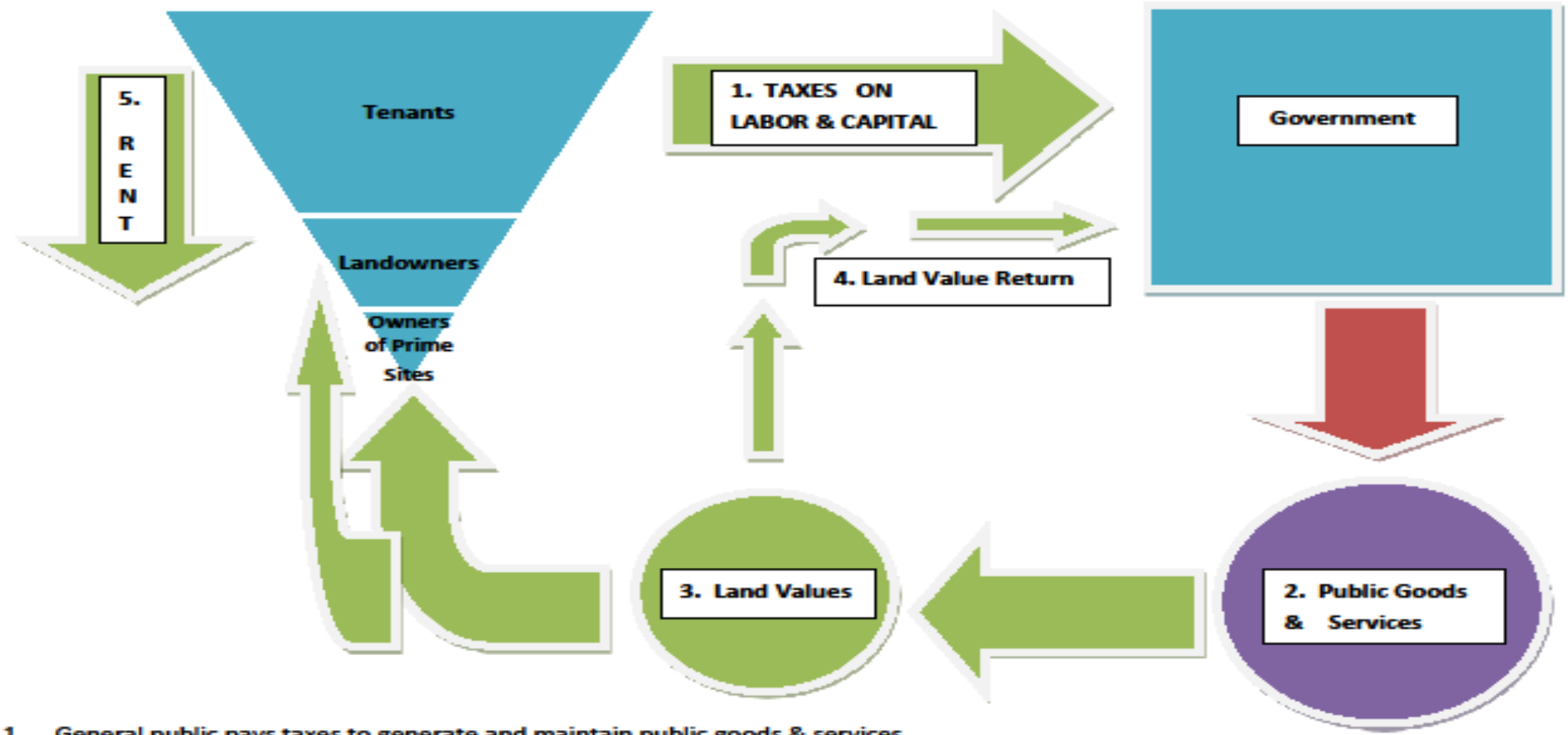
- Land Speculation: Buying land, not to use it, but to hold it for future appreciation.
- Land speculation creates nothing of value.
- Land speculation does create:
  - Artificial scarcity of developable land (particularly at prime locations)
  - Real increases in land prices (particularly at prime locations)
  - Sprawl
  - Periodic Real Estate Booms & Busts Create Hardships for Most
- **The ability of private landowners to appropriate publicly-created land value is the fuel for land speculation.**



# LAND VALUE RETURN

- When infrastructure is well-designed and well executed, it inflates the price of nearby land.
- Returning publicly-created land value to the public sector that created it and recycling it for infrastructure creation, operations and maintenance is "**Land Value Return**" ("**LVR**").
- Typically, most property taxes return only 10% to 20% of publicly created land value.
- Thus, 80% to 90% of the publicly-created land value ends up as a windfall to private landowners. This is the fuel for land speculation.
- If land value return was more robust, land speculation would diminish and land prices would drop.

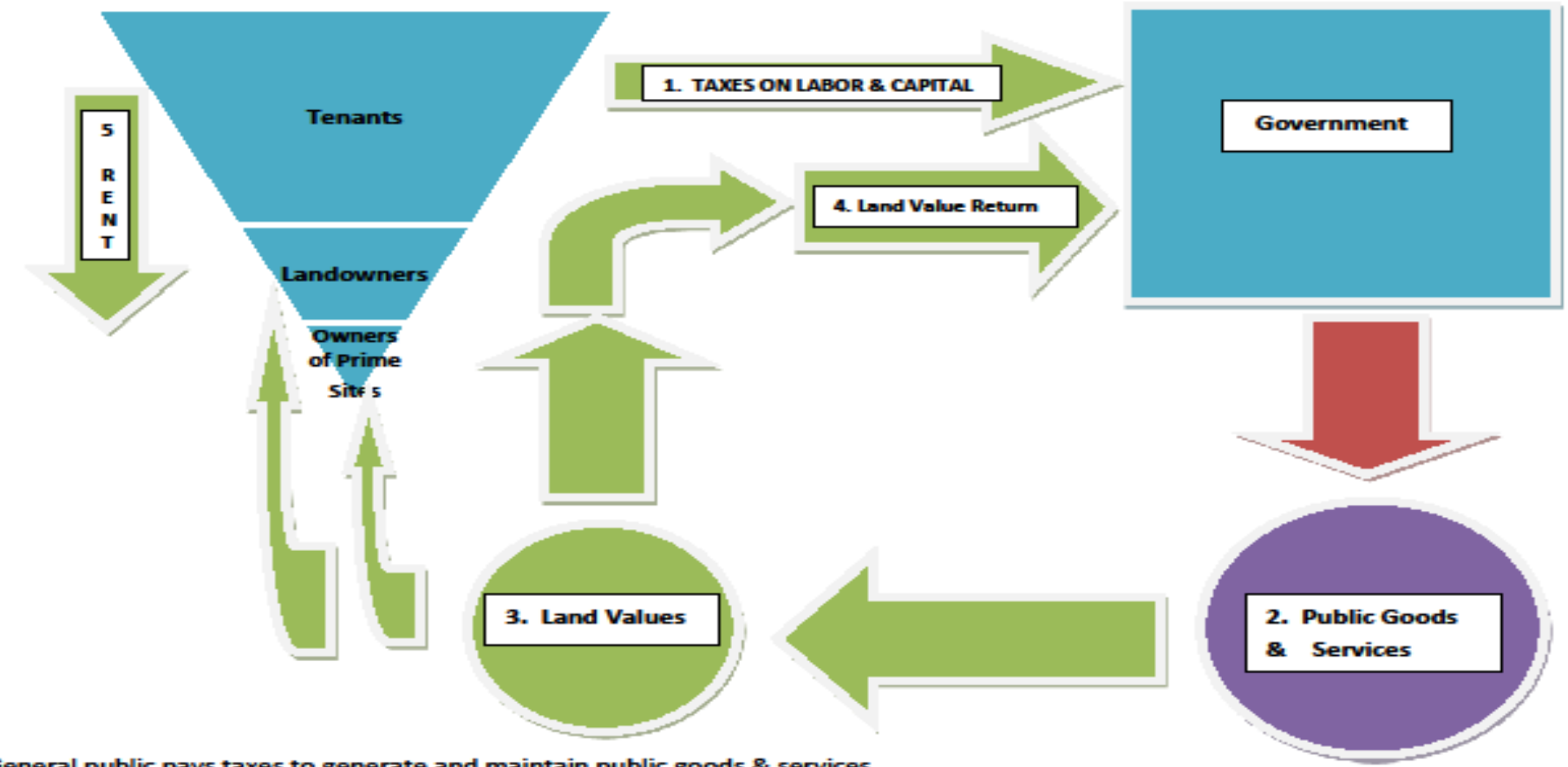
# LAND VALUE CREATION & CONSEQUENCES




1. General public pays taxes to generate and maintain public goods & services.
    a. Owners of prime sites contribute less than others because most of their taxes are passed through to tenants and consumers.
2. Governments use taxes to produce public goods & services
3. Benefits of many public goods & services are capitalized into higher land values, mainly on prime sites. ("Location, location, location!")
4. Land Value Return: Access fees (land taxes). Typical property tax returns only 1% or 2% of publicly-created land value per year.
5. Most land values created by government are windfalls to owners of prime sites who charge premium rents to tenants for the right to access these public goods and services. NOTE: Tenants pay twice for public goods & services. Once in taxes & again in land rent.

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# ENHANCED LAND VALUE RETURN FOR SUSTAINABILITY & EQUITY




1. General public pays taxes to generate and maintain public goods & services.
   a. Owners of prime sites contribute more than before. Land value return fees are <u>not</u> passed through to tenants and consumers.
   b. Taxes on labor and capital could be reduced as a result of returning and recycling publicly-created land values. (See step 4)
2. Governments use taxes to produce public goods & services
3. Benefits of many public goods & services are capitalized into higher land values ("Location, location, location!")
4. More robust access fees return more publicly-created land values to the public. (Taxes on labor and capital could be reduced in step 1.)
5. Reduced windfalls to private landowners reduce land prices and reduce land rents from tenants to landowners. If taxes on buildings were also reduced, buildings become more affordable and tenants get more value for the building rents that they pay.

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# OVERCOMING
# THE INFRASTRUCTURE CONUNDRUM



- Different Funding Mechanisms Have Different Impacts on Behavior

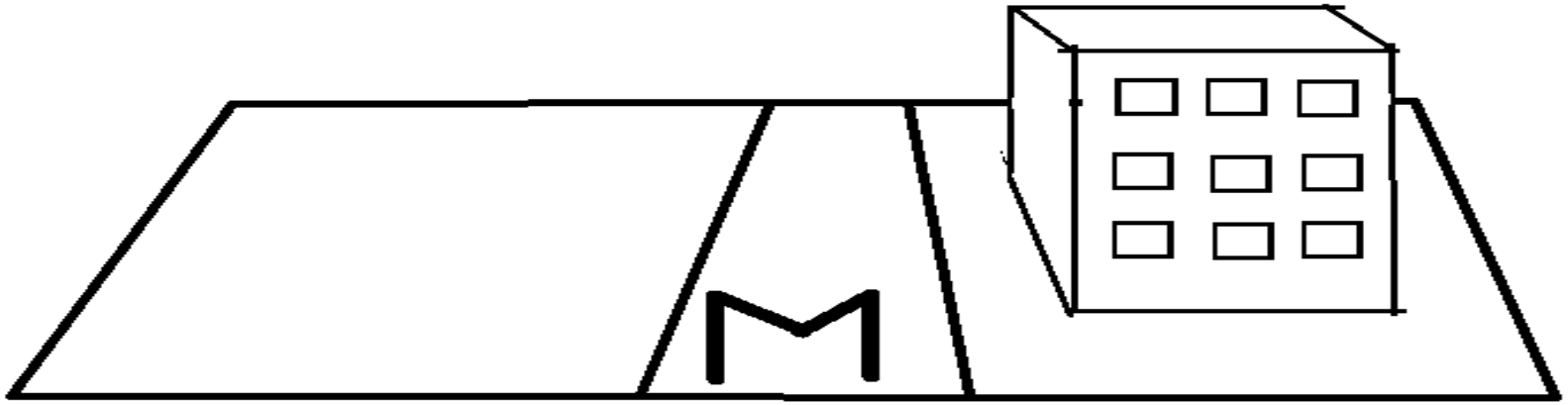


- Paying for water with a per-gallon fee encourages conservation
- Paying for water with a sales tax does not.
  - **Should Vacant Lot Owners Pay the Water Authority?**
  - **User Fees & Land Value Return (Access Fees)**



- Likewise, Development Fees (DF) and Land Value Return (LVR) have different impacts on development decisions & land use.
  - Fees based on building value drive development away
  - Fees based on land value compel development on high-value land

# Development Fee (DF) v LVR



**DF:**

As land is more intensively developed, more users are benefiting from nearby infrastructure. Property owners should pay based on the number of users as measured by the intensity of development.

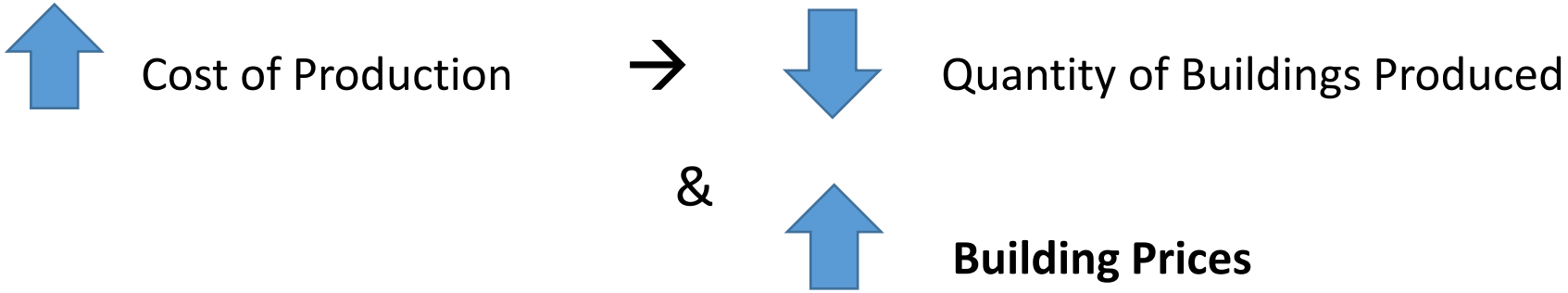
**LVR:**

Infrastructure creates the same opportunity benefit to nearby land regardless of whether or not that land is developed. Property owners should pay based on the value received from public facilities.

# Development Fee (DF) v LVR

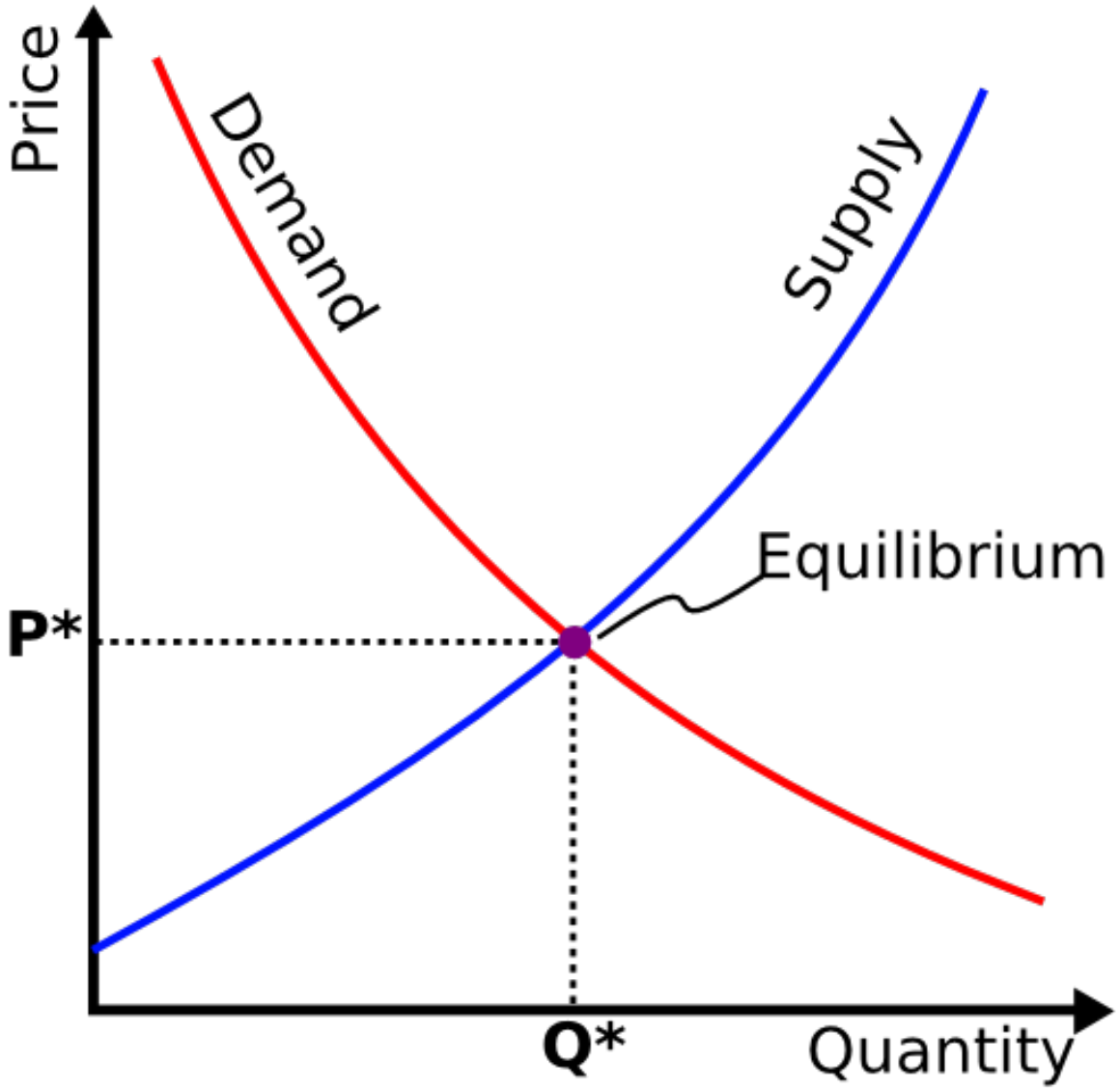
**Development Fee (DF) :**

- **DF:** Fee Imposed on Building Value to Offset Infrastructure Costs
- **DF**: No Building, No Fee. THUS: **DF** = **Cost of Production**

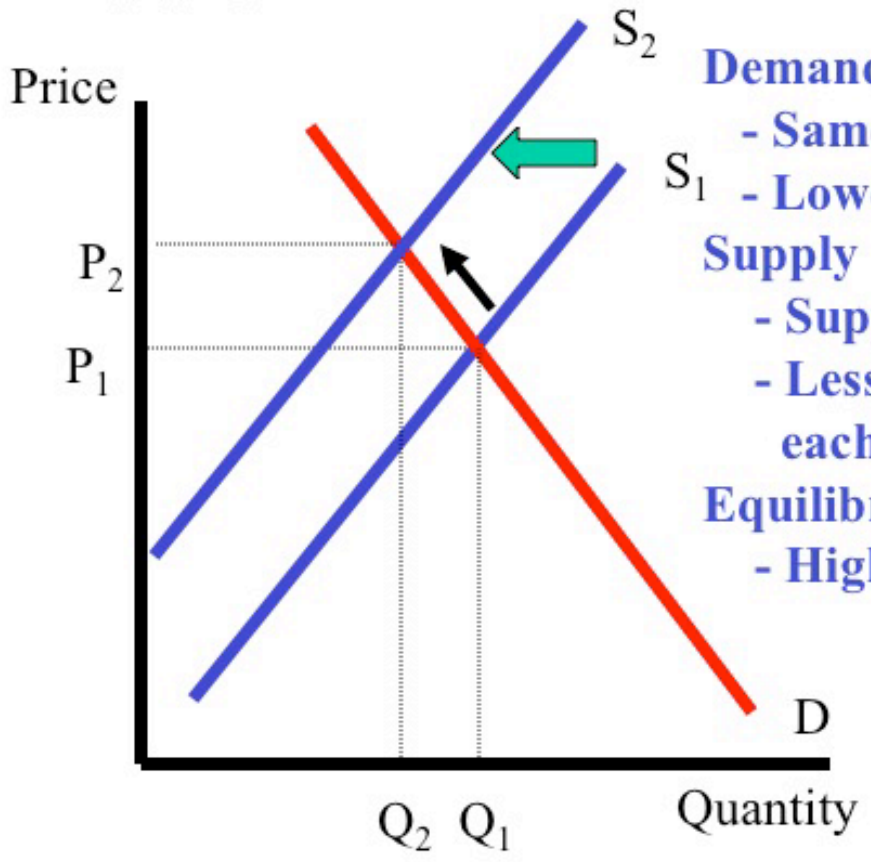



**Do we want to reduce development near infrastructure and increase its price?**

A fee on building value appropriates privately-created value. It burdens builders, future occupants & consumers.


Price
Demand
Supply
Equilibrium
P*
Q*
Quantity

# Supply Shifts Left




**Demand**
- Same demand curve
- Lower quantity demanded

**Supply**
- Supply shifts in
- Less quantity supplied at each price

**Equilibrium**
- Higher P & Lower Q

# Development Fee (DF) v LVR

- **<u>LVR:</u>** Fee Based on Land Value

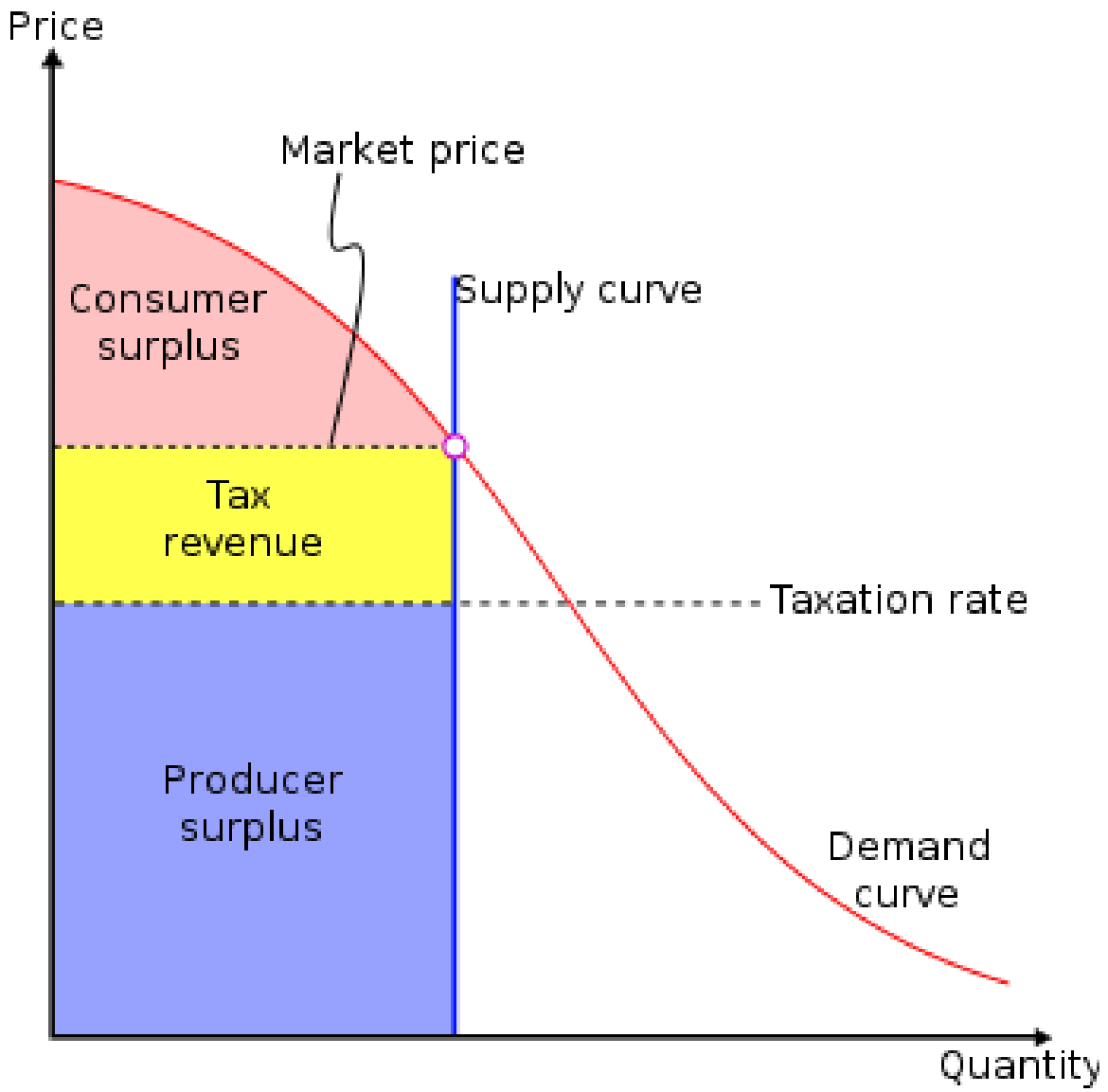
  Land Supply NOT Reduced by LVR. Land is NOT Produced.

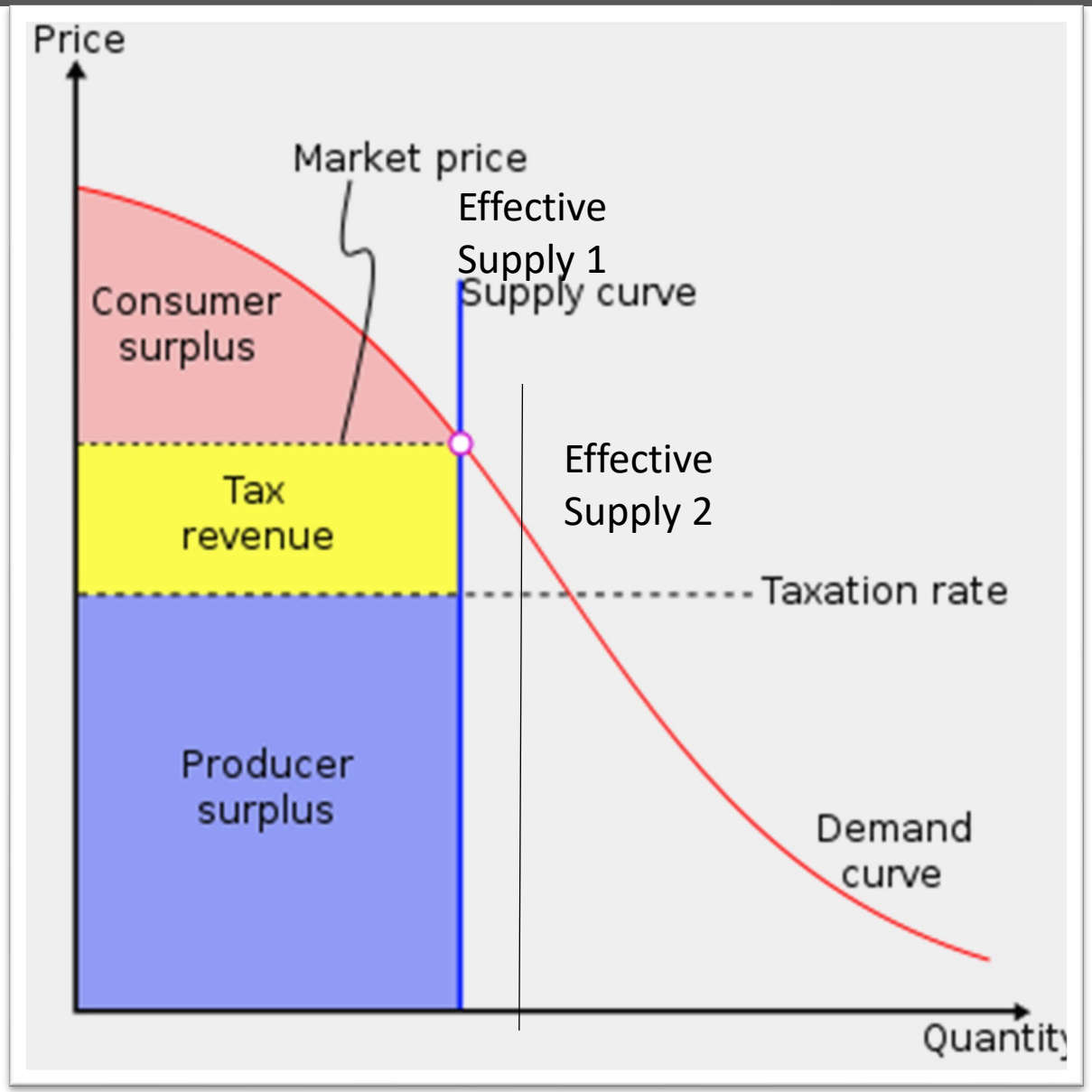
  LVR ≠ Cost of Production LVR = Cost of Ownership

- What's the Impact of LVR on Land Price?
  - Land Price Relates to the Expected Benefits of Land Ownership

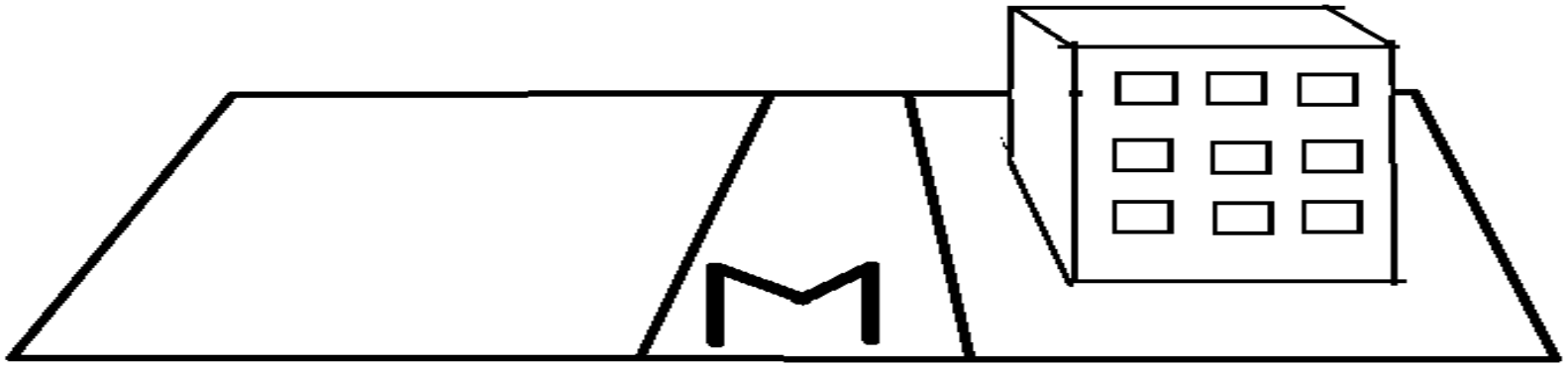



- **LVR does NOT burden builders, future occupants or consumers.**


Price
Market price
Consumer surplus
Supply curve
Tax revenue
Taxation rate
Producer surplus
Demand curve
Quantity


Price
Market price
Effective
Supply 1
Supply curve
Consumer
surplus
Effective
Supply 2
Tax
revenue
Taxation rate
Producer
surplus
Demand
curve
Quantity

# Infrastructure (M)
# Creates Equal Value on Two Lots




**Community Needs $ 1,000 in Total Revenue:**

| | Vacant Lot | Developed Lot |
|---|---|---|
| **DF:** | $ 0 | $ 1,000 |
| **LVR** | $ 500 | $ 500 |

# DF v LVRR

- Landowner Responses:
  - Avoid the Development Fee

    ⇩ Number / size / quality of new buildings
    (Build in lower-tax locations instead)

    ⇩ Maintenance / improvement of existing buildings

  - Fund Land Value Return
    - Land Value Return Cannot be Avoided
      - Location-value of parcel not determined by owner
      - Owner can't move land to a lower-tax location
    - High-value land will be developed – or sold to someone who will

# Overcoming the Infrastructure Conundrum
# Land Value Return: Infrastructure Access Fees

- Under LVR, landowners pay for infrastructure benefits in proportion to benefits received. Highest payments due from high-value sites near urban infrastructure amenities.
- LVR encourages development of high-value land. Instead of pushing development away, LVR draws development to transportation and other infrastructure amenities.
- Thus, LVR reduces sprawl, infrastructure duplication, per capita infrastructure costs and tax burdens.



# LVR EXAMPLES:

- ARE YOU INTERESTED IN INNOVATION ?
- LOOK BACK INTO HISTORY !

# Chevy Chase Streetcar



- 1890s, the Chevy Chase Land Company (CCLC) bought 1,700 acres of land along the DC-MD border. This farmland and forest land was very cheap because it was far away from the White House and downtown jobs.
- At its own expense, CCLC built a streetcar line out Connecticut Avenue to Chevy Chase. They charged people a few pennies to ride. This fare probably paid for the conductor. But it did not cover the cost of the rails or the rolling stock. Was this altruism?
- Absolutely Not! Now that there was convenient and affordable transport to downtown, the value of Chevy Chase land for homes and businesses skyrocketed. This more than paid for the streetcar investment.
- NOTE: If CCLC had attempted to recoup all costs through the farebox, fares would have been very expensive. Nobody would have ridden. Both the streetcar project & the land development project would have failed.



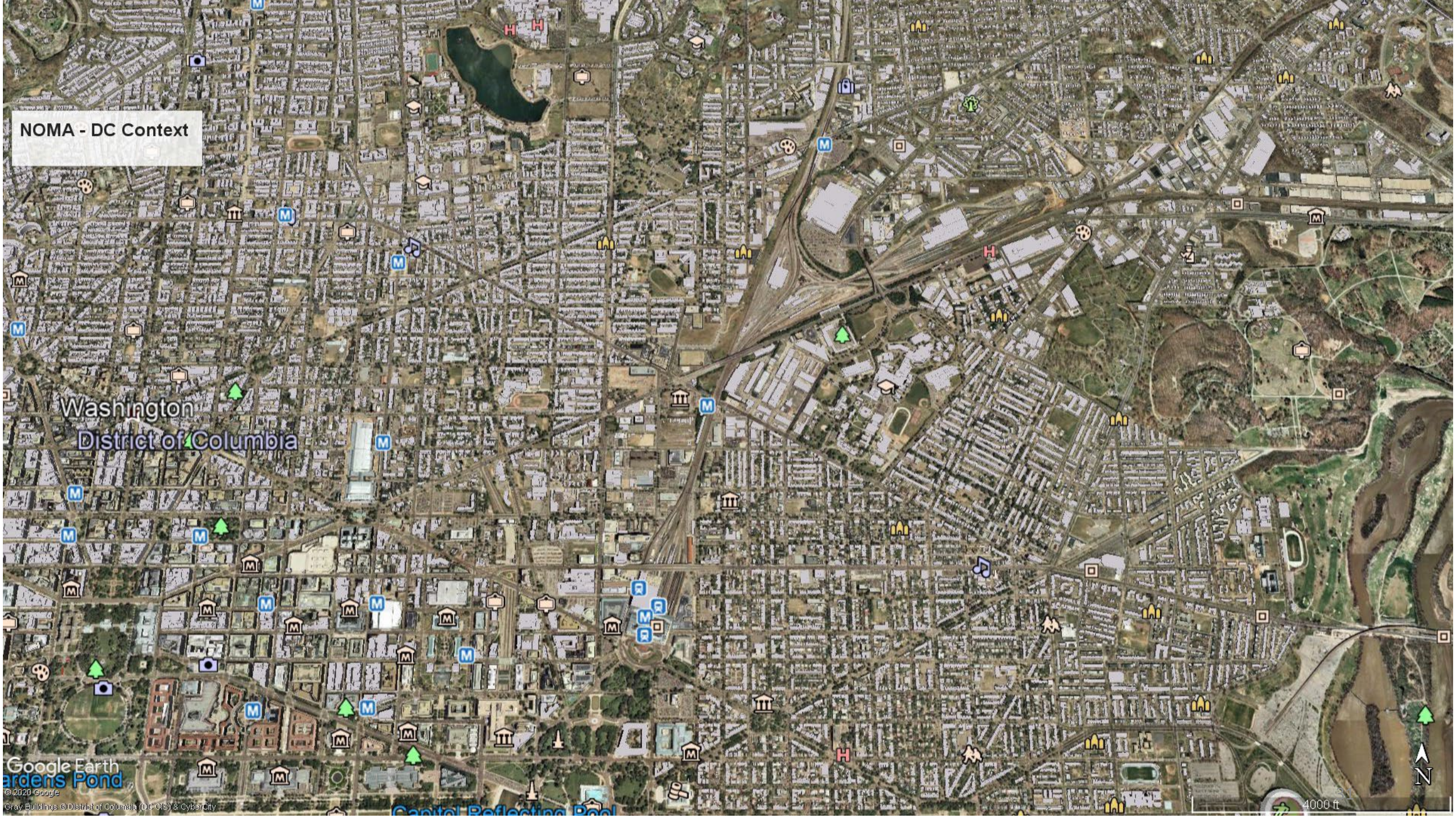

# LVR Examples: Hong Kong

- Hong Kong owns all the land in Hong Kong
- Prior to subway construction, MTR purchased land above and around its proposed transit stations.
- MTR leases this land to developers who build skyscrapers over and around the stations.
- MTR is one of the few, if not the only, profitable transit authorities in the world.

- LVR is more than transit. Every time that Hong Kong makes itself more productive or more livable, land values rise and these values come back to Hong Kong in terms of higher land lease payments.

# NOMA-GALLAUDET METRO STATION: Development-Oriented Transit

- The “Red Line” is one of the busiest transit lines in the Washington, DC Metrorail system. When the system was constructed in the 1970s, the next station north of Union Station was “Rhode Island Avenue,” about two miles away.
- No Station was built in the area in between because it was derelict industrial land with very few homes or places of employment.
- In the 1990s, the District’s downtown was booming and some of the landowners in this area wanted to put up office buildings. Their request for building permits were denied. The landowners were astonished and requested an explanation.
- The permit office explained that the only access to these proposed buildings was along streets that were already over-crowded during rush hour. It would be irresponsible to load more traffic onto these streets.
- The permit officer noted, however, that the Metrorail Red Line ran past these properties. If only there was a transit station in this area, building permits could be granted.


NOMA - DC Context
Washington
District of Columbia
Google Earth
© 2020 Google
Gray Buildings © District of Columbia (DC GIS) & CyberCity
4000 ft
N

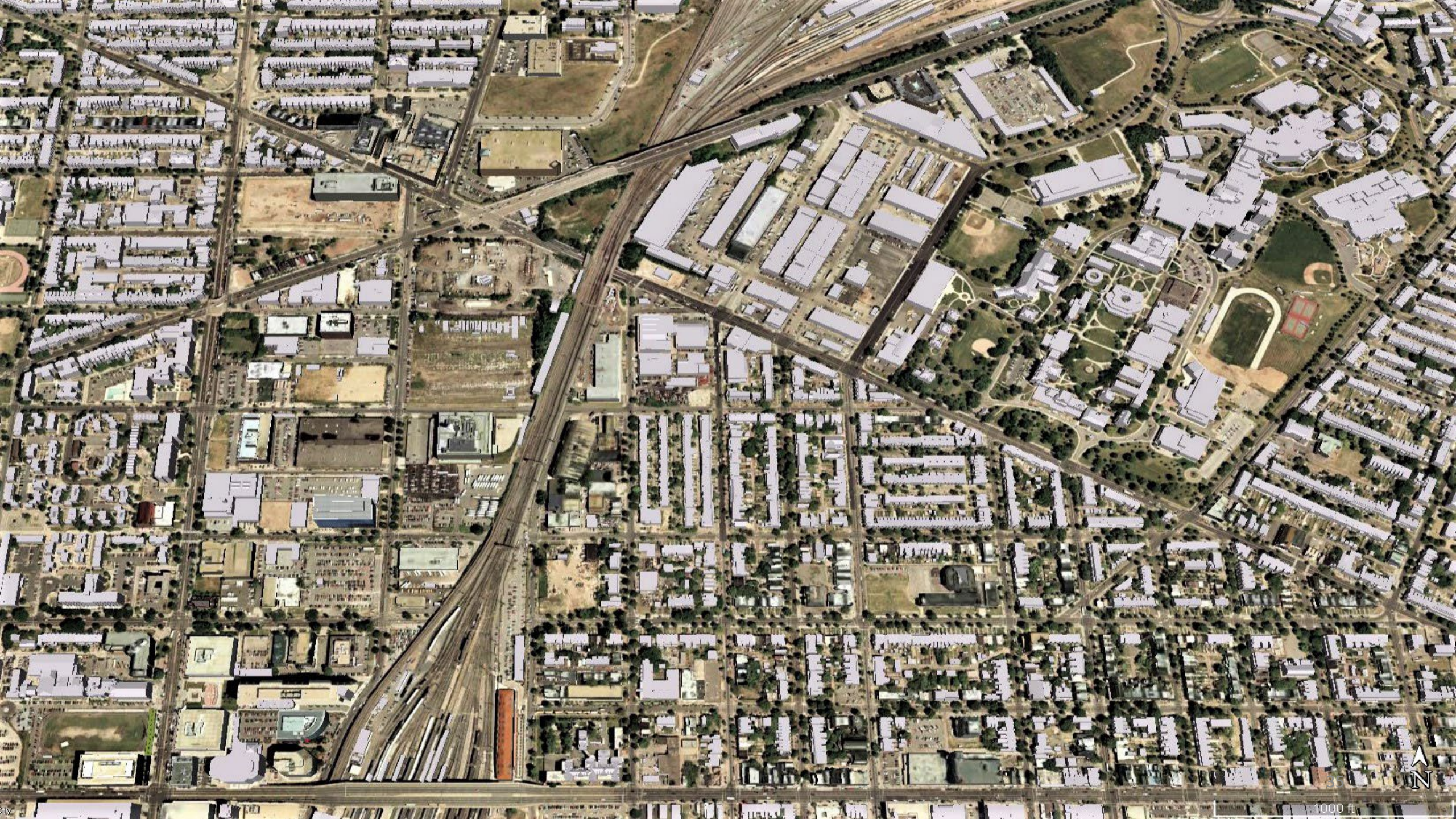

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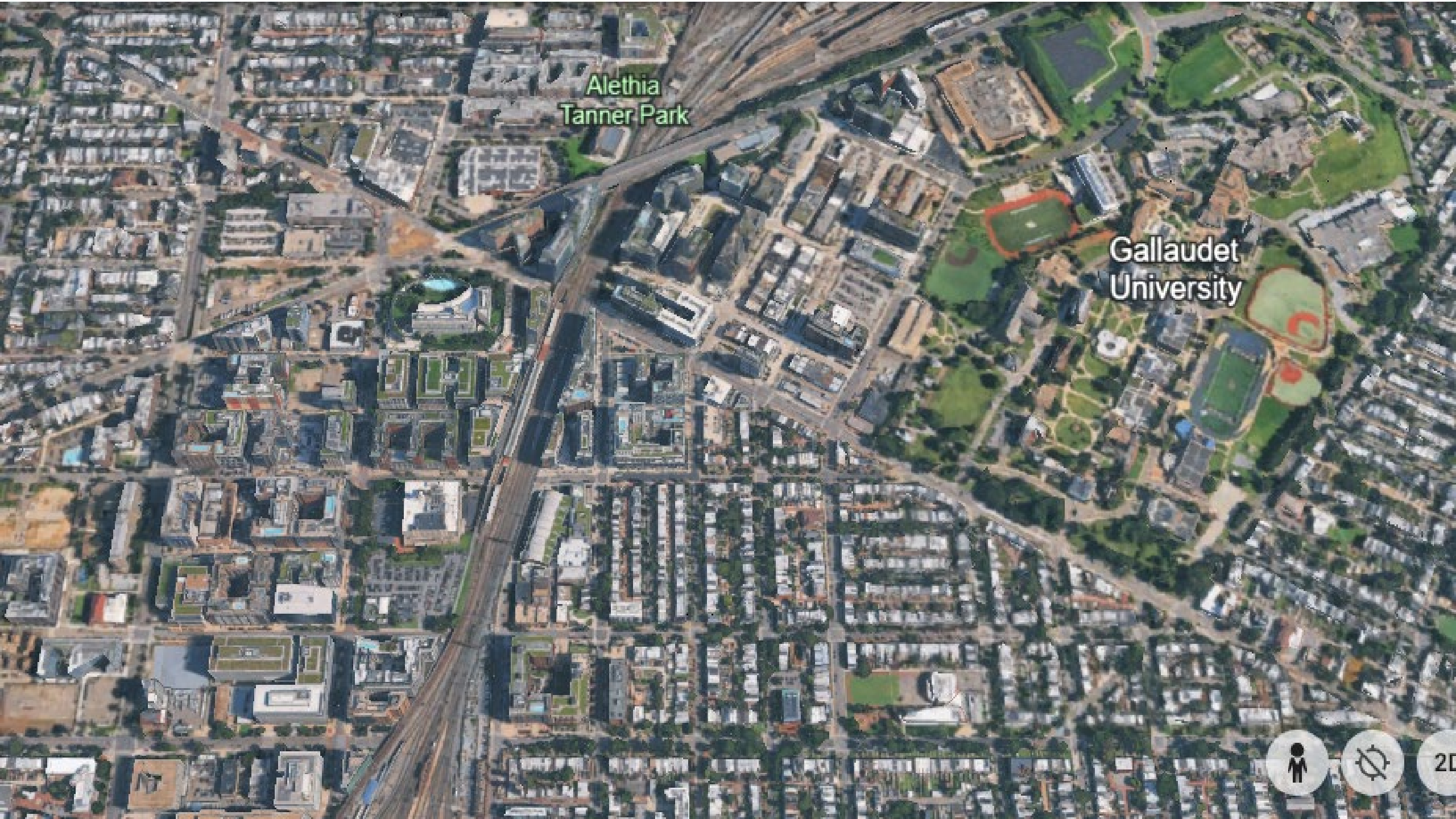
# NOMA-GALLAUDET METRO STATION: Development-Oriented Transit

- The landowners met with the DC Department of Transportation and requested that a new Metrorail station be built in between Union Station and Rhode Island Avenue.
- I was at this meeting. I indicated that the District would like a new Metro station in this area, but the District was broke. All of its spending was subject to decisions from a Congressionally-appointed Control Board.
- Furthermore, I noted that if a Metro station was created at this location, the value of their land would go up substantially. If the landowners wanted a Metro station here, they would have to help pay for it.
- The landowners looked very unhappy and the meeting ended abruptly. Several months went by and we received no communications from them.
- Suddenly, out of the blue, came an announcement from the Mayor's office that the landowners had offered $25 million for a new Metrorail station at New York and Florida Avenue, NE.

# NOMA-GALLAUDET METRO STATION: Development-Oriented Transit

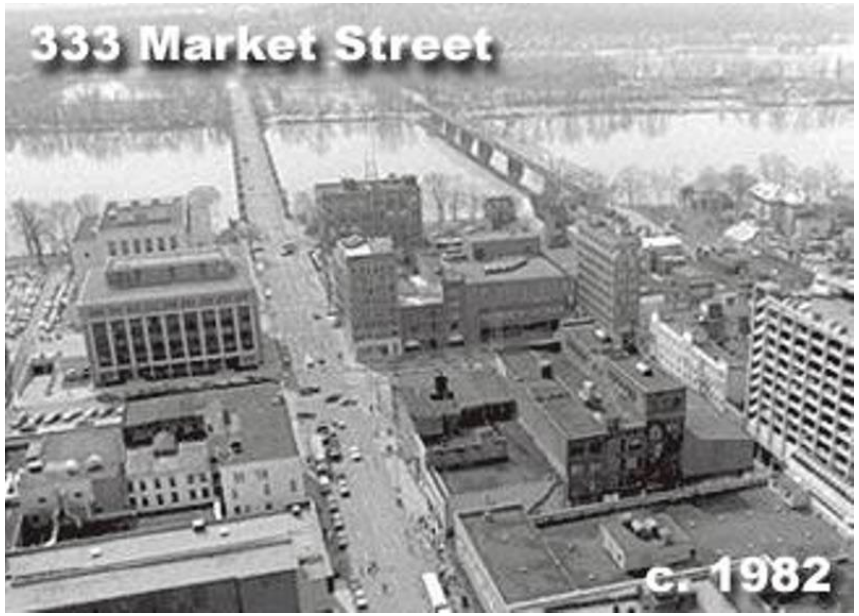
- A special assessment district was created by legislation. The District sold a $25m bond. Landowners pay off the debt service on the bond over 20 years.
- Because the land within the Special Assessment District was mostly vacant land, the special assessment is based almost entirely on land values and constitutes land value return.
- In a separate transaction, adjacent landowners also paid for the construction of new streets (N Street, NE & 2nd Street, NE) because these streets did not connect to the street grid (they dead end at the railroad) and primarily serve as access to their property


N
1000 ft


Alethia
Tanner Park
Gallaudet
University
2D



# LVR EXAMPLES: Harrisburg







- In 1972, Hurricane Agnes caused the Susquehanna River to flood Harrisburg, PA. Middle class whites were also leaving downtown for the suburbs (as was happening across the country). In the mid 1970s, there were over 5,000 vacant and boarded up properties in downtown. Harrisburg was classified as **one of the worst cities** of its size in the USA.

- In 1975, Harrisburg **shifted** its property tax off of building values and onto land values. By the early 1990s, the number of vacant properties had been reduced to a few hundred. Harrisburg was classified as **one of the most livable cities** of its size. This rejuvenation of Harrisburg's downtown happened well in advance of the "back to the city" movement of the early 2000s.

# LVR EXAMPLES:

## Economic Resilience X 3

## McKeesport Duquesne & Clairton

- **Controlled Experiments in social science are rare**. A tax shift was implemented in Pittsburgh and Harrisburg. Change occurred. **Was the tax shift responsible, or would change have happened anyway?**

- McKeesport, Duquesne and Clairton are similar steel towns in the Pittsburgh Region. By the mid 1970s, each town's steel mill had closed. The number and value of building permits declined in each city for several consecutive years.

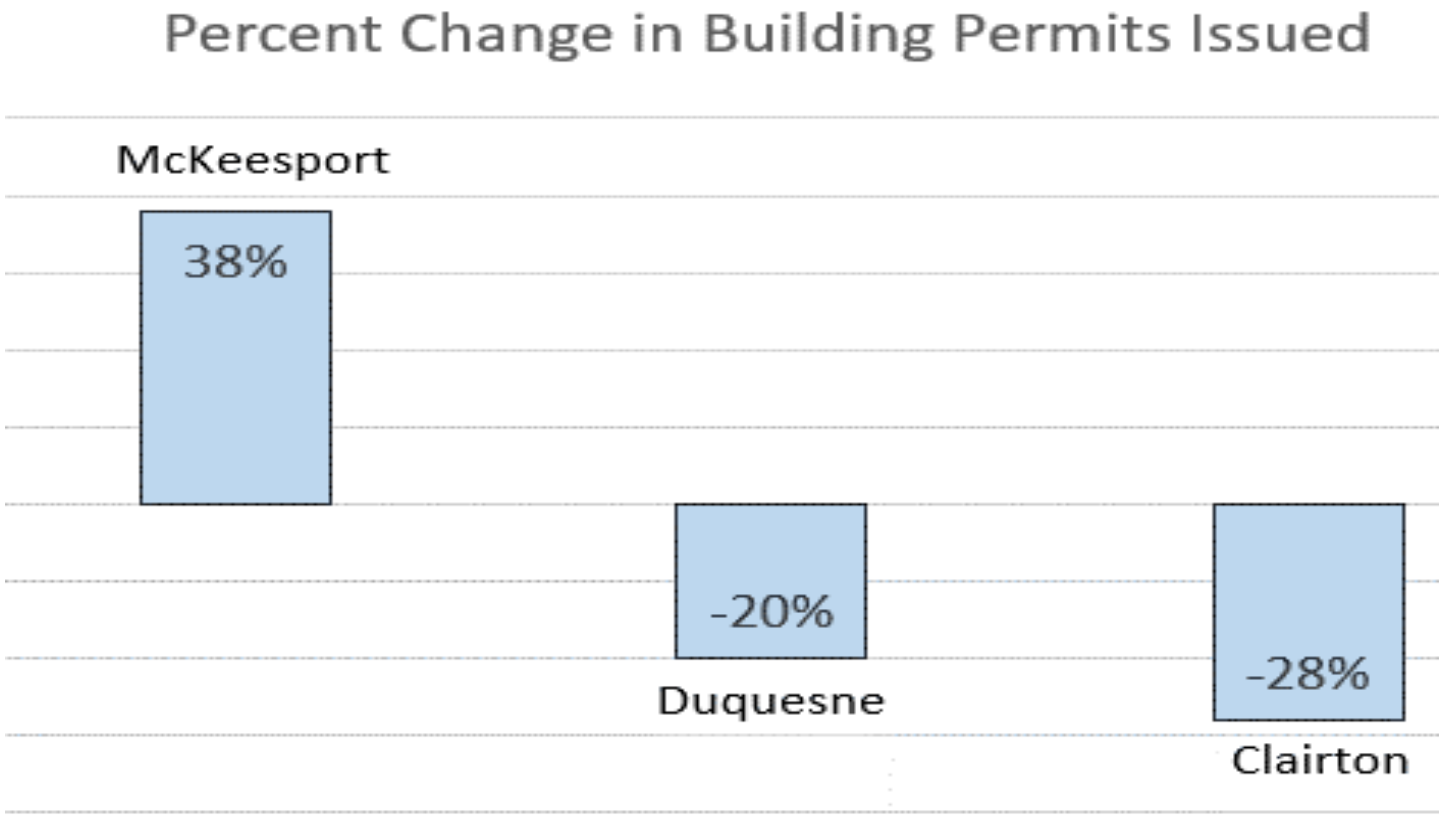
- McKeesport then adopted a two-rate property tax. Building permits increased for three consecutive years. But, **would this have happened anyway?**

# LVR EXAMPLES: Economic Resilience X 3 McKeesport, Duquesne & Clairton

- Duquesne and Clairton kept their traditional property tax.

.

- Permits continued decline in these nearby cities while they were increasing in McKeesport.



# LVR EXAMPLES:

## Economic Resilience X 3

## McKeesport Duquesne & Clairton

- Duquesne and Clairton noticed what was happening in McKeesport and adopted LVR defensively. Shortly thereafter, the number of building permits began to rise in these cities as well.

- **NOTE**: McKeesport, Duquesne and Clairton are very distressed cities. Property tax reform did not bring back the steel factories and the thousands of good-paying jobs that these factories provided. But this "experiment" shows that, at whatever stage of the business cycle a community is in, even during the depths of a recession or depression, LVR can help a community's economy operate at a higher level.

# Relationship between Access Fees & Zoning

- Single-Family & Other Low-Density Zoning limits the number of people who can access valuable areas. This artificial scarcity of housing opportunities means that only the affluent can obtain housing in high-demand areas

- What If Density Were Increased?
  - **THEORY**: More people on the same land:  per capita land costs
  - **REALITY**:  Density →  $$$ Land Prices (reducing affordability)

- Land Value Return will **return** that Publicly-Created Value back to the community and **reduce land price inflation**
- **LVR Allows Density Increases to Provide Affordability Benefits**

# Achieving Prosperity, Sustainability & Equity

**Many Programs & Policies Are Needed to Promote Efficient Transportation, Affordable Housing & Job Creation**

A balanced array of user fees and access fees (LVR) is not the only program and policy required. However, **without the constructive economic incentives created by these fees, other programs and policies are ineffective or counter-productive.**

If well-designed and balanced, a system of user fees and access fees:

- **Funds transportation & other infrastructure**
  - Beneficiaries pay in proportion to the benefits received.
- **Informs** consumers and landowners about the consequences of their decisions. (LVR internalizes economic externalities.)
- **Integrates** infrastructure investments with land use & development, promoting more efficient, more convenient, less polluting, and less congested transport.
- **Reduces Sprawl** (enhancing the environment); and
- **Reduces** development costs (enhancing housing affordability & econ development).



# QUESTIONS?

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# Making Economics Work for People

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