

Transit-Oriented Development in Mexico City

Spring 2016 Practicum

MIT DUSP

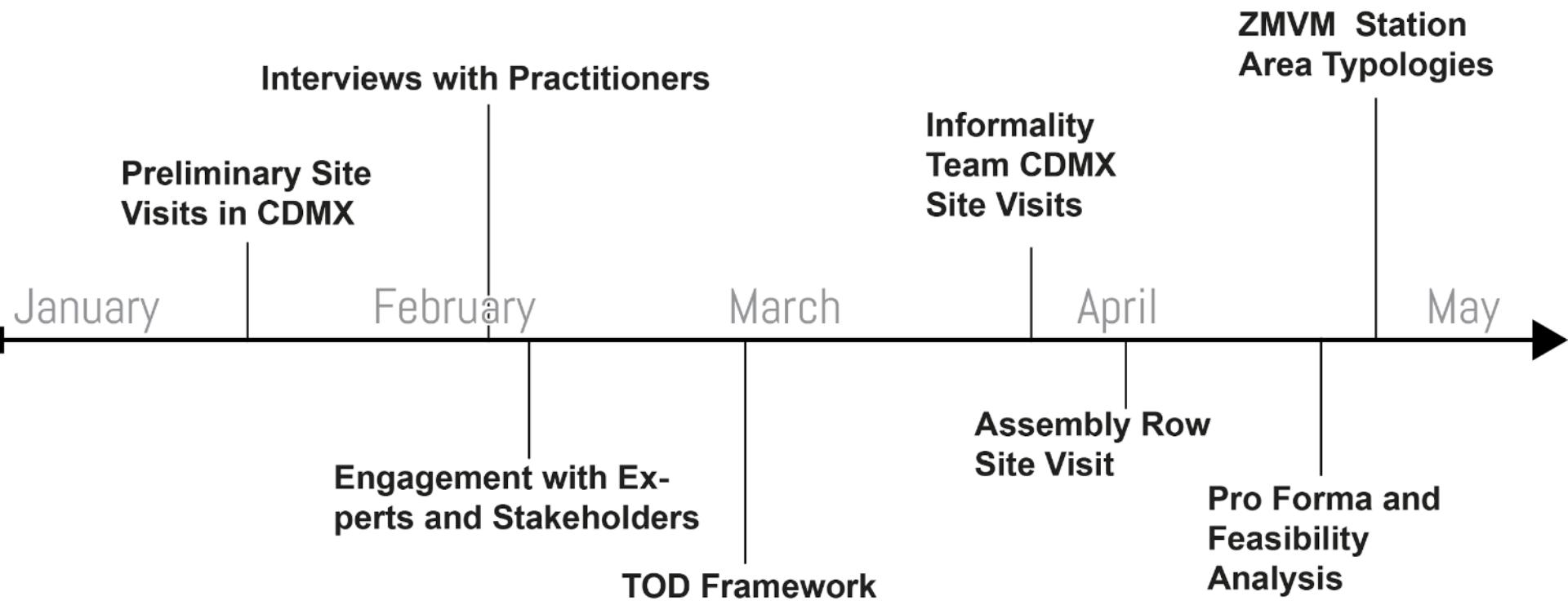
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Introduction

We are **17 planning students** from MIT developing
a **context**-driven, **action**-oriented approach for assisting both
the **private** and **public** sector to
cultivate and **implement** transit-oriented development in **Mexico City**

**Method:
Data Gathering and Analysis**



Roadmap

9:15: Part 1

- Context: Why TOD? Why CDMX?
- Our Process
- TOD Framework for Analysis: Themes, Typologies, and Site Introductions
- Policy Proposal: Implementation

10:15: BREAK

10:30: Part 2

- Proposed Actions
- Summary

Introduction

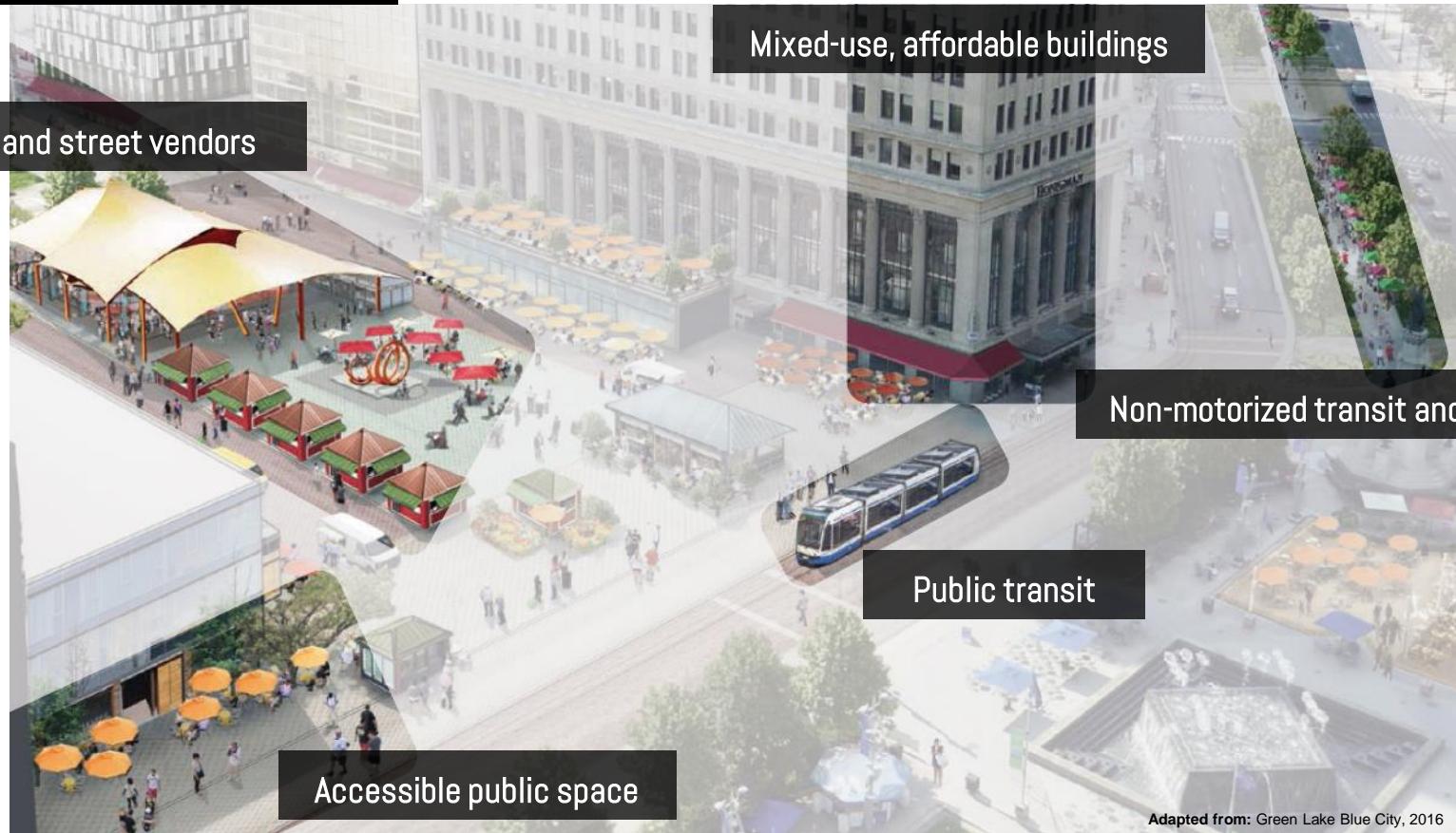
Why TOD?

Why does Mexico City
need a TOD policy?



WHY TRANSIT-ORIENTED DEVELOPMENT?

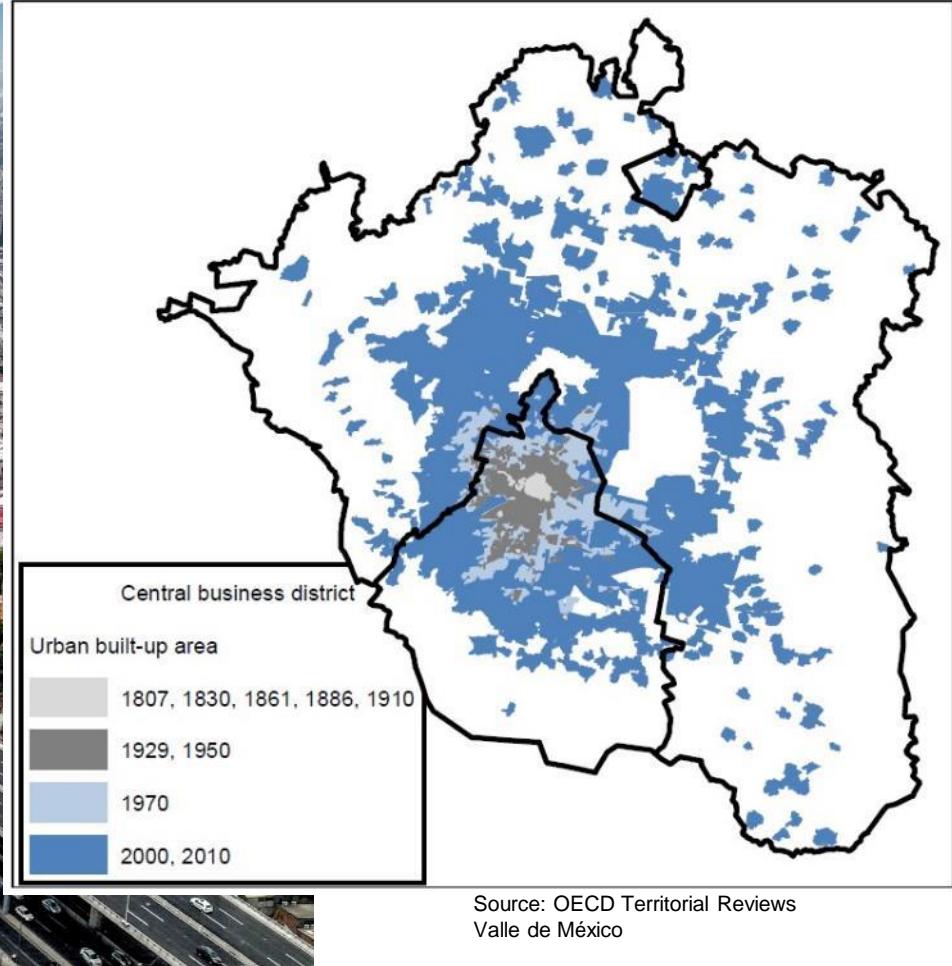
Features of TOD



Adapted from: Green Lake Blue City, 2016

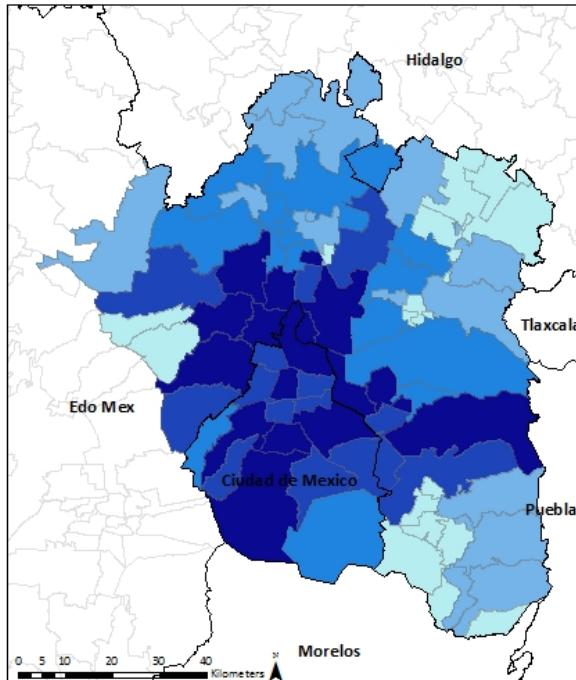
WHY DOES MEXICO CITY NEED TOD?

Urban Sprawl



Source: OECD Territorial Reviews
Valle de México

Population



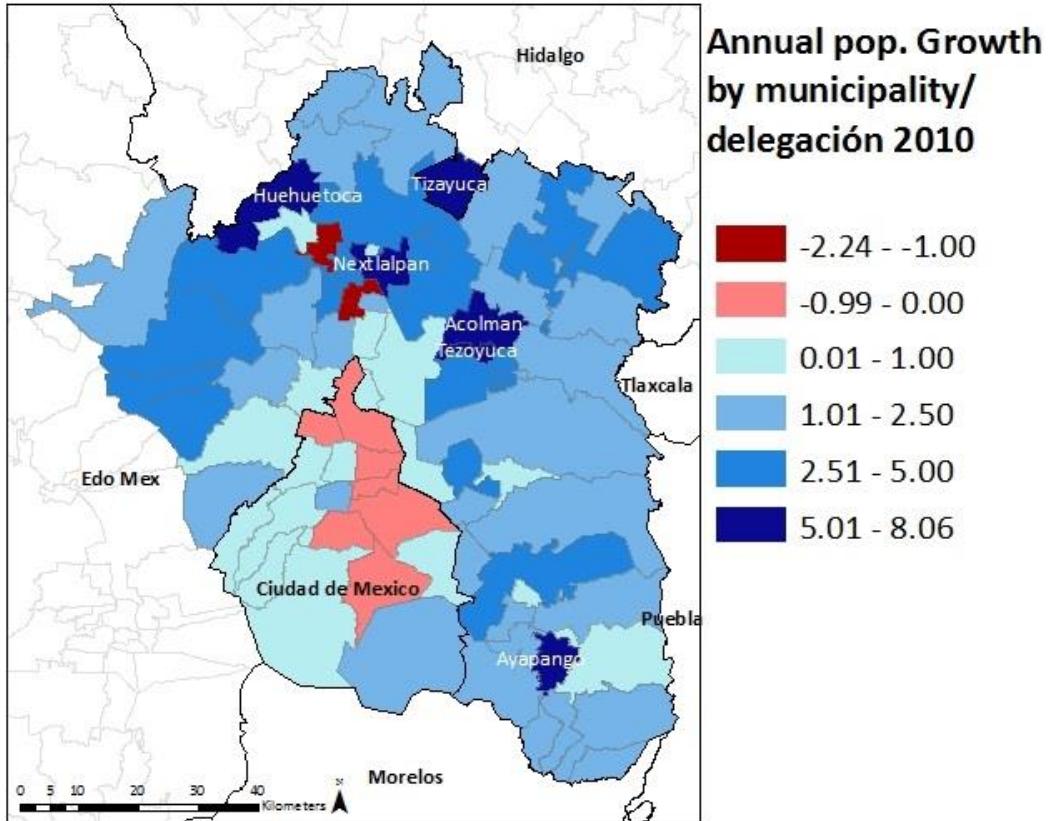
**Total Population
by municipality/
delegación 2010**

- 1Q. Less than 26,886
- 2Q. 26,887 - 49,660
- 3Q. 49,661 - 241,175
- 4Q. 241,176 - 435,387
- 5Q. More than 435,388

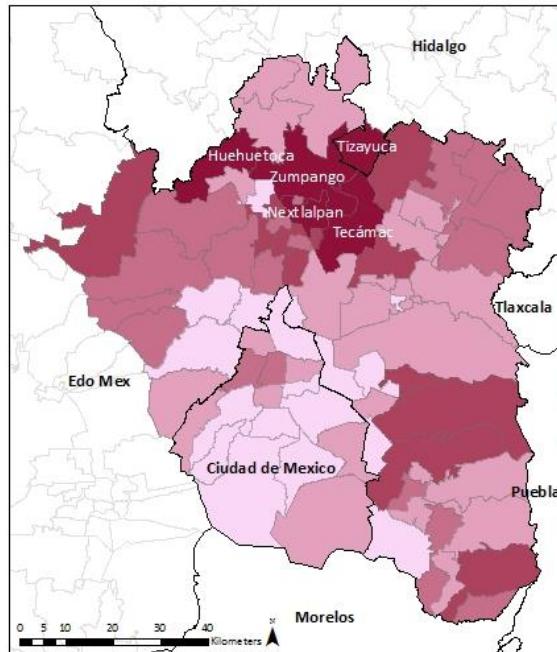
	Population			
	1990	2000	2010	% change, 1990-2010
Federal District	8 253 744	8 605 239	8 851 080	7%
State of Mexico (59 municipalities)	7 297 758	9 745 094	11 168 301	53%
State of Hidalgo (1 municipality)	30 293	46 344	97 461	222%
Total Valle de México	15 581 795	18 396 677	20 116 842	29%

Source: OECD Territorial Reviews
Valle de México

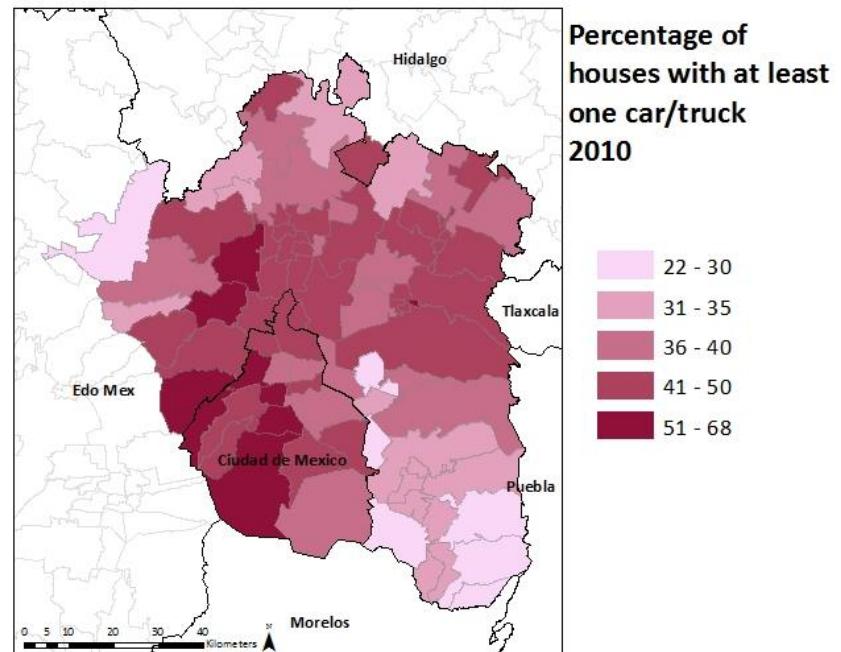
A Continuing Trend



Consequences



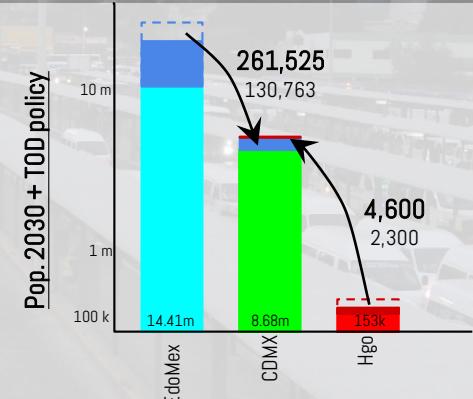
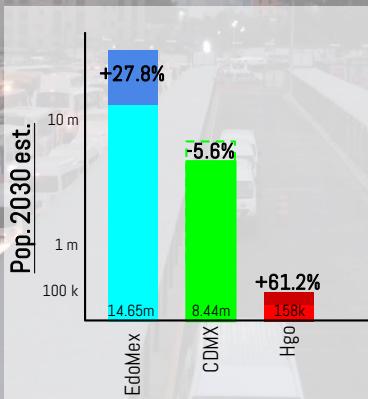
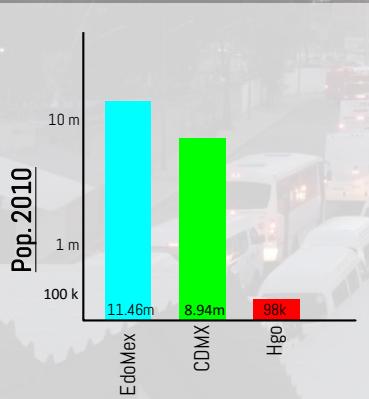
Percentage of non-occupied houses per municipality/
delegación 2010



Can We Reverse the Trend?

A city-wide policy that recognizes that areas surrounding transit stations deserve special treatment to attract new inhabitants, considering:

- Current residents and businesses
- Public sector capacity
- Transparency and accountability
- Demographic trends



OUR PROCESS

Our Process



+



=

City-Wide Policy

+



Typologies



Proforma

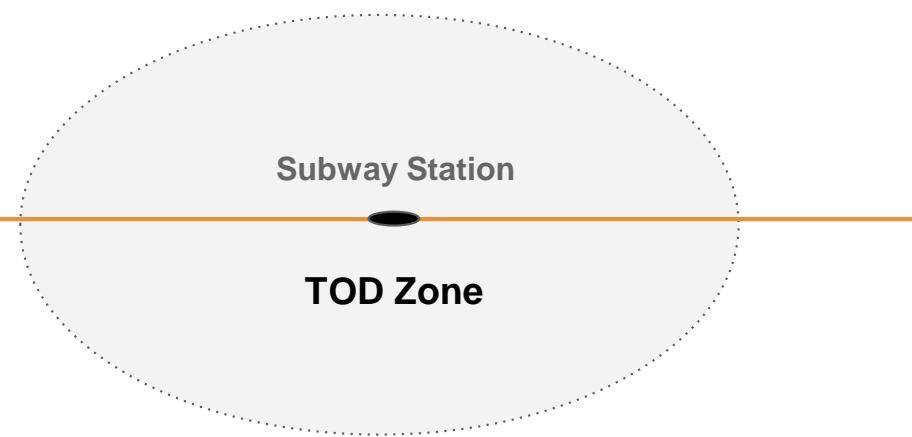
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Site Recommendations

Our Idea

A **city-wide** policy that recognizes that **areas surrounding transit stations deserve special treatment**

- Methodology to draw boundaries
- Assess needs and development potential
- Partial plan
- Capture incremental value
- Reallocate resources
- REPLICATE

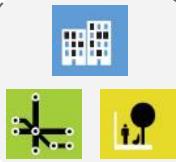


Our Idea in Action



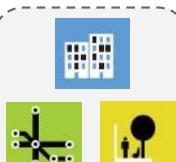
ZMVM TOD Policy

El Rosario



Community Land Trust
Microbus Tech
Wayfinding

San Joaquín



Streetscape
Improve connectivity
Inclusionary dvlpmnt

Cuatro Caminos



Incorporate vendors
Commercial corridor
Block redesign

Tacubaya



Central bus station
Inclusionary Zoning



TOD THEMES

TOD THEMES



Accessibility



Affordability



Design



Informality



Accessibility



Why Accessibility Matters

Accessibility relates to the ability to reach goods and services; friends and places

It's not only about **how** you get there, but **where** things are

Coordinating land use and transit, through **TOD**, allows to maximize accessibility



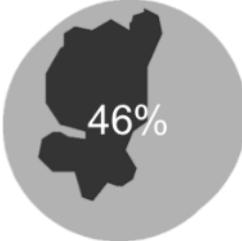


Neighborhood Connectivity

1. Raw OpenStreetMaps Data



El Rosario



2. Select Walkable Network



San Joaquín



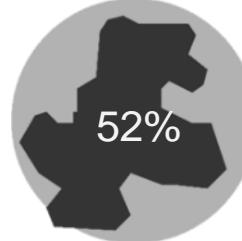
3. What can you reach in 10-minutes?



Tacubaya

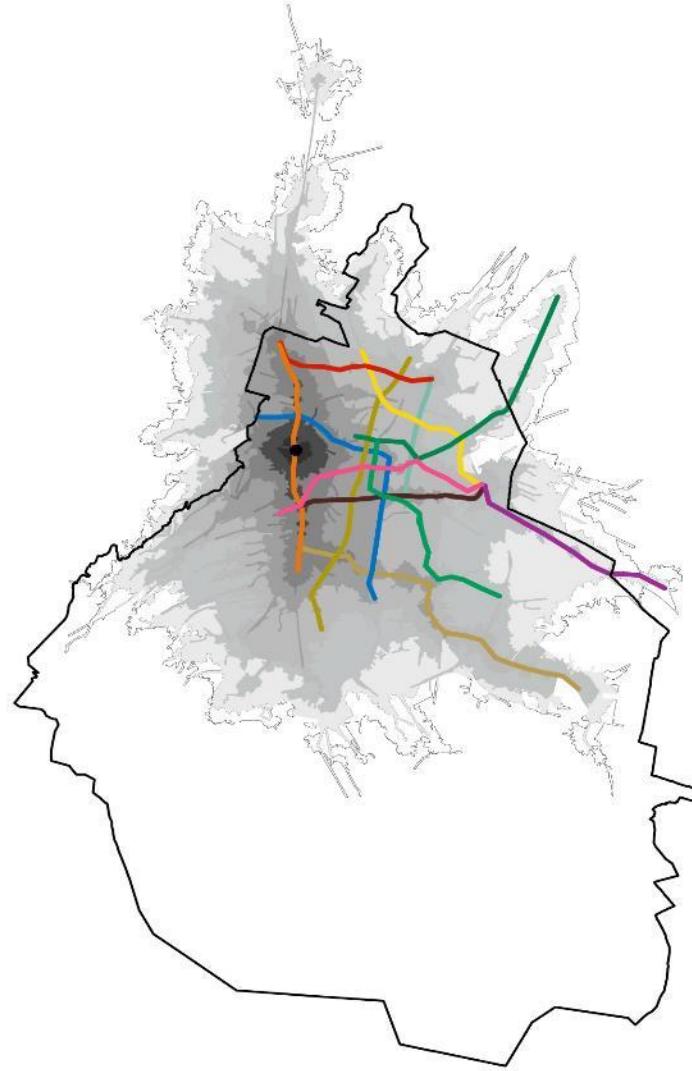


Cuatro Caminos





Why Accessibility in CDMX?





Accessibility Metrics



TOD Element Name	CUATRO CAMINOS	EL ROSARIO	SAN JOAQUÍN	TACUBAYA
Neighborhood connectivity	Orange	Orange	Green	Green
Metropolitan connectivity	Yellow	Orange	Orange	Orange
Availability and ease of transfers	Orange	Orange	Yellow	Yellow
Non-motorized environment	Orange	Yellow	Green	Orange
Variety of transportation options	Orange	Yellow	Green	Green
Efficient movement of goods	Orange	Yellow	Green	Orange
Diverse mix of activities	Red	Yellow	Green	Orange
Job/housing balance	Red	Yellow	Green	Yellow
Temporal distribution of activities	Orange	Orange	Green	Yellow
Density	Red	Orange	Green	Yellow
Parking considerations	Orange	Orange	Orange	Orange
Variety of options for "basic needs" trips	Orange	Green	Green	Yellow



Design



Design

Goal: Creating a positive physical environment in TOD.

Best Practices:

Public: streetscape and street grid promote comfort and legibility

Private: active ground floor uses engage users

Transit Station: landmark status and public space creates neighborhood identity





Design Metrics

- VERY GOOD
- GOOD
- POOR
- VERY POOR

TOD Element Name	CUATRO CAMINOS	EL ROSARIO	SAN JOAQUÍN	TACUBAYA
Human-scale block dimensions and density of intersections	●	●	●	●
Interactivity interior-exterior	●	●	●	●
Pedestrian-oriented streetscapes	●	●	●	●
Bicycle-oriented streetscapes	●	●	●	●
Legible street network	●	●	●	●
Density of intersections	●	●	●	●
Proximity of open space	●	●	●	●
Limited driver/pedestrian conflict points	●	●	●	●
Pleasant street level environment	●	●	●	●
Freight design considerations	●	●	●	●



Design Metrics

- VERY GOOD
- GOOD
- POOR
- VERY POOR

TOD Element Name	CUATRO CAMINOS	EL ROSARIO	SAN JOAQUÍN	TACUBAYA
Variety of active ground floor uses	●	●	●	●
Flexible street parking considerations	●	●	●	●
Preservation of historic elements	●	●	●	●
Proximity of travel modes	●	●	●	●
Wayfinding elements	●	●	●	●
Landmark status of station	●	●	●	●



Affordability



Affordability

- 1. Why Affordable TOD?**
- 2. Methods**
- 2. Affordability Metrics**
- 2. Key Proposals**





Why Affordable TOD?

Residents priced out:
Housing prices in Mexico City unaffordable and rising rapidly

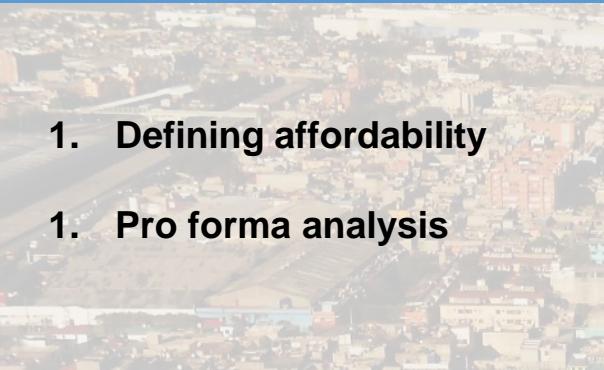
City losing population:
National affordable housing policy incentivizes moving to far away suburbs

Worse quality of life for all:
Poor air quality, congestion, long commutes, and poor job access



Methods

1. Defining affordability
1. Pro forma analysis





Defining Affordability

Percent of Area Median Income (AMI)

CDMX: \$21,062 pesos/month in 2015 (INEGI)

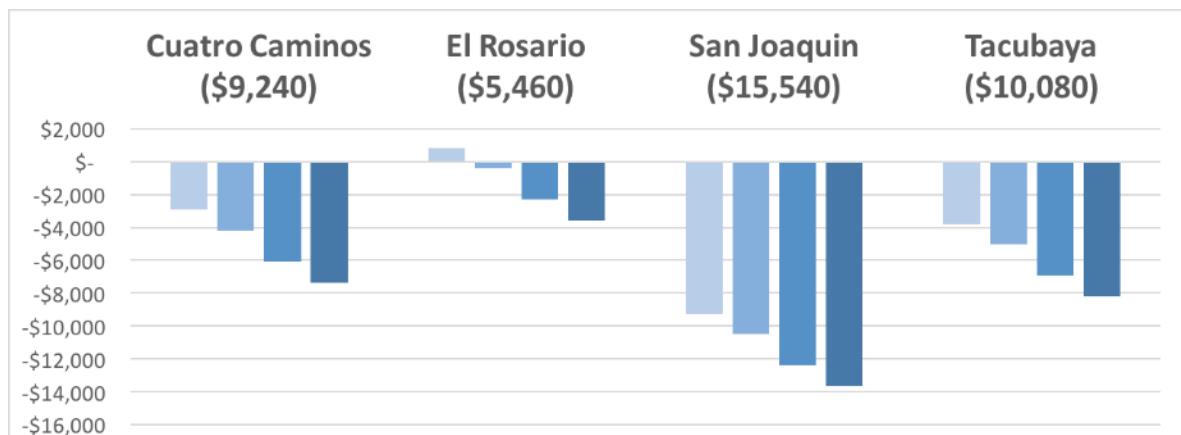
Affordability threshold
30% of monthly household income
for housing

*Infonavit/INVI/CONAVI
thresholds: 4-5 VSM, or
\$8,881-\$11,102*

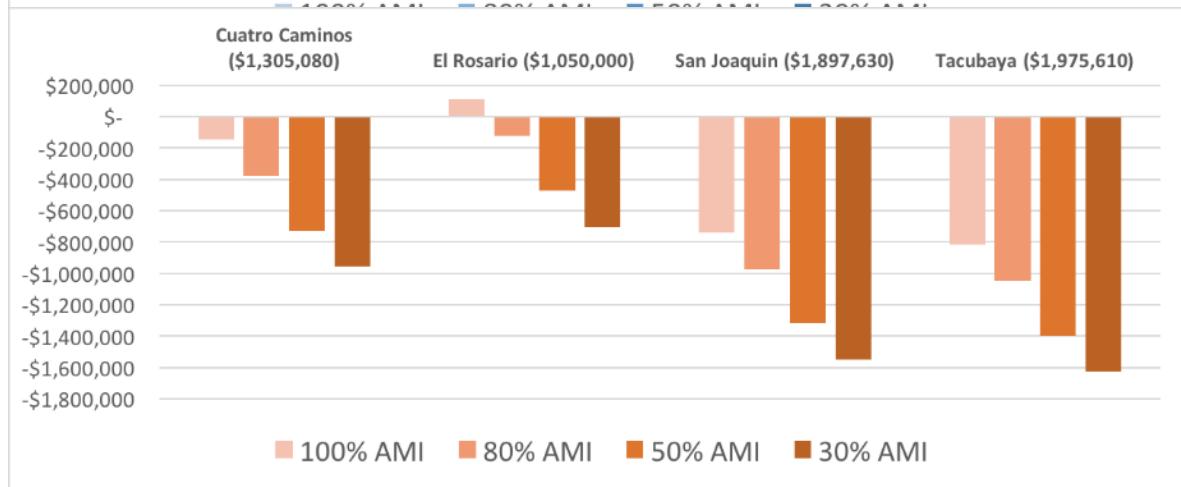
Bedrooms	100% AMI (Median)	80% AMI (Moderate)	50% AMI (Low)	30% AMI (Very low)
HOUSEHOLD INCOME				
2	\$21,062	\$16,681	\$10,426	\$6,255
MONTHLY RENTS (30% OF INCOME)				
2	\$6,319	\$5,004	\$3,128	\$1,877
FOR SALE PRICES (30% OF INCOME TO MORTGAGE, 6% INT, 10% DOWN, 30 YRS)				
2	\$1,159,278	\$918,149	\$573,843	\$344,306

Just how unaffordable is Mexico City?

Rental housing affordability gap by station



For sale housing affordability gap by station





Affordability Metrics

TOD Element Name	CUATRO CAMINOS	EL ROSARIO	SAN JOAQUÍN	TACUBAYA
Access to jobs	○	○	○	●
Household income	●	●	●	○
Homeownership Affordability Measure	○	●	●	●
Rental Affordability Measure	○	●	●	○
Cost burden ratio	○	○	●	○
Housing market growth rates	○	●	○	○
Vacancy rates	●	○	○	○



VERY GOOD



GOOD



POOR



VERY POOR



Pro Forma Analysis

Key Inputs

1. **Station area data:** zoning, land values, rents, sale prices
1. **General Mexico City data:** income, unit sizes, construction costs
1. **Common real estate assumptions:** efficiency factor, vacancy, etc.

Key Variables

1. **Density bonus**
2. **Parking requirements**
3. **% Affordable units (by AMI)**
4. **Land subsidy**

Station Area Inputs

	Cuatro Caminos	El Rosario	San Joaquín	Tacubaya
Base zoning (floors)	3	4	4	5
Average land cost (m ²)	\$11,000	\$10,429	\$15,260	\$21,310
Average market rate rent (m ²)	\$132	\$78	\$222	\$144
Average market rate sale price (m ²)	\$18,644	\$15,000	\$27,109	\$28,223

Key Outputs

1. **Profit** (project revenue - total development cost)
1. **% Profit** (profit to total development cost)
1. **Unlevered IRR** (no financing)
1. **Levered IRR** (with financing, before taxes)



Inclusionary Development Analysis

Comparative analysis of a standard size plot and zoning (4 stories)
 (+) = from business as usual scenario IRR

AFFO RDAB LE	DENSIT Y	PARKI NG	LAND	SCENARIO	RETURN	CUATRO CAMINOS	EL ROSARIO	SAN JOAQUÍN	TACUBAYA
0%	-	-	-	BUSINESS AS USUAL	IRR	17.9%	-	25.9%	11.0%
20%	-	-	-	NO INCENTIVES, AFFORDABLE REQS	IRR	16.1% (-1.8)	-	22.1% (-4.8%)	-
20%	1.5X FAR	50%	-	MODERATE	IRR	22.0% (+4.1)	-	32.6% (+6.7%)	18.6% (+7.6%)
20%	2.0X FAR	100%	-	AMBITIOUS	IRR	27.7% (+9.8)	16.30%	39.5% (+13.6%)	24.6% (+13.6%)
50%	1.5X FAR	50%	100%	LAND SUBSIDY	IRR	22.8% (+4.9)	-	33.2% (+7.3%)	24.3% (+13.3%)



Key Proposals

City-wide TOD policies for inclusionary development

1. Inclusionary development
2. Public land

Affordability programs

1. Location Efficient Mortgages
2. Community Land Trusts
3. Rental Vouchers

Inclusionary Development

- **Implementation:** Determine agency to regulate affordable units.
- **Affordability requirements:** set clear baseline affordability requirements, given market analysis.
- **Incentives:** parking, density, permitting time and cost

Sample incentive and regulation structure

	Parking reduction	Density bonus	Affordability requirements
Moderate	50%	1.5x current FAR	20% units affordable to 80% AMI
Ambitious	100%	2.0x current FAR	20% units affordable to a range of AMI



Key Proposals

City-wide TOD policies for inclusionary development

1. Inclusionary Development
2. **Public Land**

Affordability programs

1. Location Efficient Mortgages
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Public Land for Public Good

- **Implementation:** Delegate agency to create plan to capture value of public land, considering tradeoffs, for city goals.
- **Set higher affordability requirements** in exchange for land subsidy, at least 30%
- **Create clear incentive structure** to increase affordability levels

Public Land for Affordable Housing

A 2014 law in Washington, DC requires that public land surplus for residential development within $\frac{1}{2}$ mile of transit must include at least 30% affordable units. Land can be transferred for less than the appraised value, and higher levels of affordability can be negotiated.

Public Land for Transit Funds

In Hong Kong, the transit agency leverages real estate around stations to finance its operations through its Rail + Property program.



Key proposals

City-wide TOD policies for inclusionary development

1. Inclusionary Development
2. Public Land

Affordability programs

1. **Location Efficient Mortgages**
2. Community Land Trusts
3. Rental Vouchers

Location efficient mortgages (LEM)

- **What?** A mortgage available to households in central neighborhoods that factors in money saved on household transportation costs, enabling a family to afford a more expensive home.
- **How?** Residents living 5km away from the Zocalo spend ~15 pesos less per day on transportation.
- **Implementation:** create new city program or partner with federal affordable housing agencies to offer the mortgage.

Sample 2 BR home prices with and without LEM

	100% AMI	80% AMI	50% AMI	30% AMI
No LEM	\$1,159,278	\$918,149	\$573,843	\$344,306
LEM	\$1,214,320	\$973,190	\$628,884	\$399,347

+15%

LEMs would enable residents to afford homes approximately 5-15% more expensive



Key Proposals

City-wide TOD policies for inclusionary development

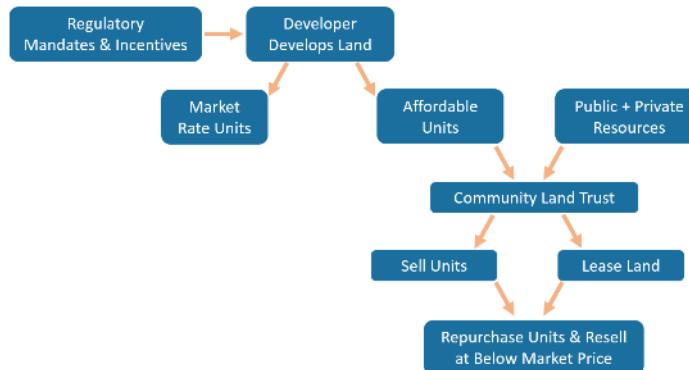
1. Inclusionary Development
2. Public Land

Affordability programs

1. Location Efficient Mortgages
2. **Community Land Trusts**
3. Rental Vouchers

Community Land Trusts (CLT)

- **What?** A nonprofit organization that receives public + private resources to develop perpetually affordable housing on behalf of lower income families.
- **How?** CLT reduces cost of homeownership by selling individual houses but retaining ownership of land below, and limiting house resale price.
- **Implementation:** Create a City-CLT partnership to obtain land donations, government grants, and philanthropic sources for affordable housing; can also help developers manage their affordable units built through inclusionary requirements.



Key Proposals

City-wide TOD policies for inclusionary development

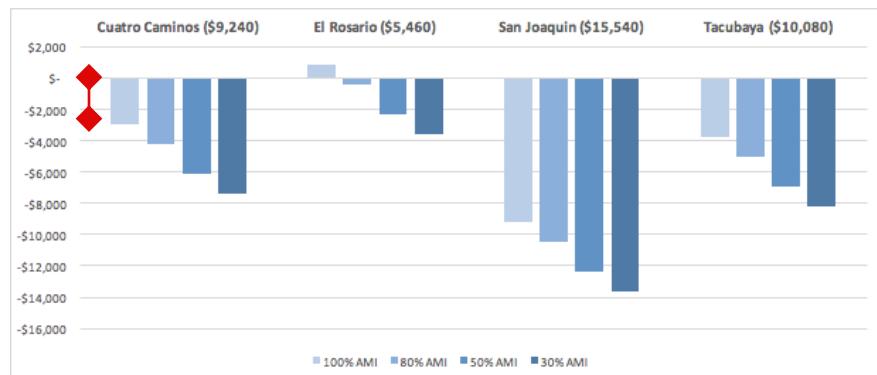
1. Inclusionary Development
2. Public Land

Affordability programs

1. Location Efficient Mortgages
2. Community Land Trusts
3. **Rental Vouchers**

Rental Vouchers

- **What?** A direct rental subsidy for qualified low income residents, that they can then apply to a unit of their choice.
- **Implementation:** Either a city agency, one of the federal government agencies, or a partnership between the two could run a rental voucher program.



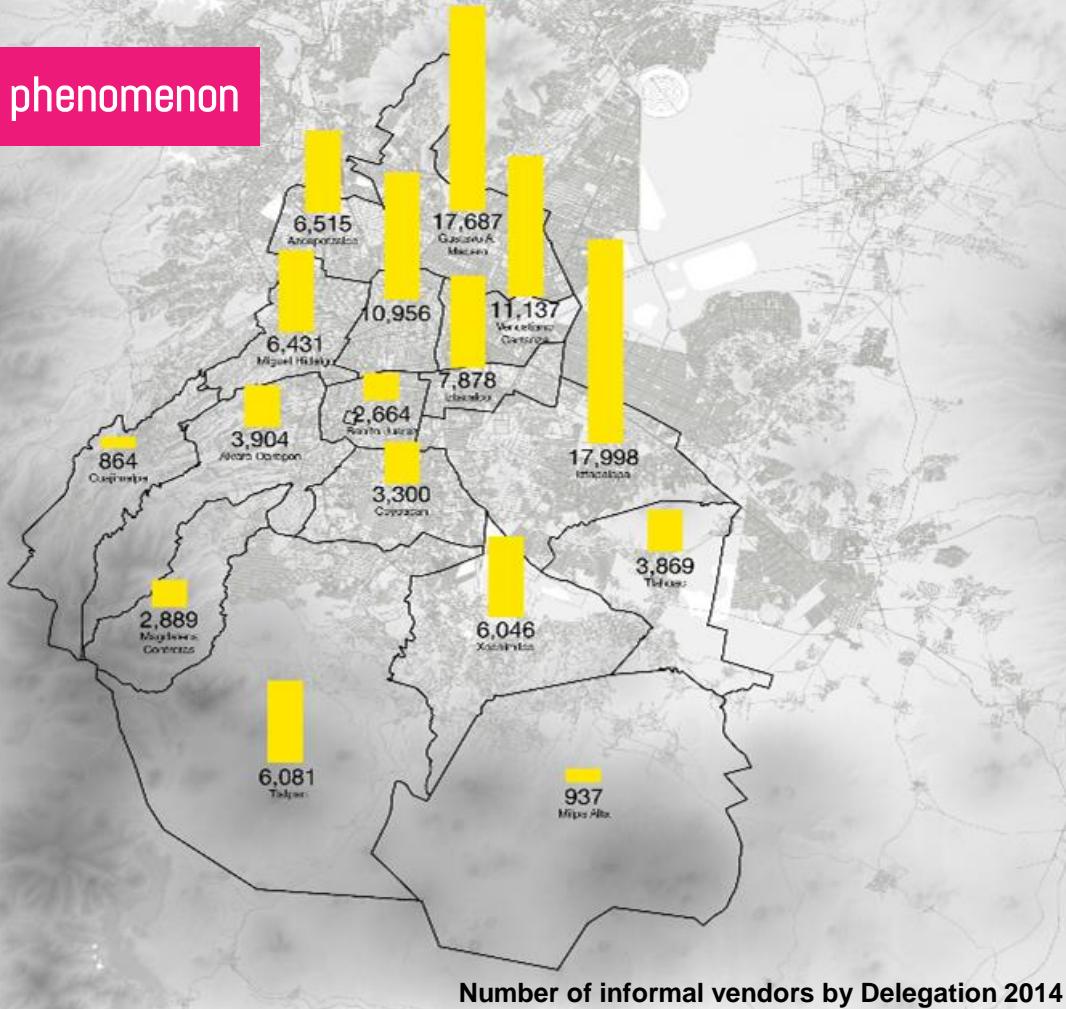
Ex. - Chile's "Chau Suegra" rental program gives fixed rental subsidies equaling ~\$2100 pesos/month, which could help close the affordability gap



Informality

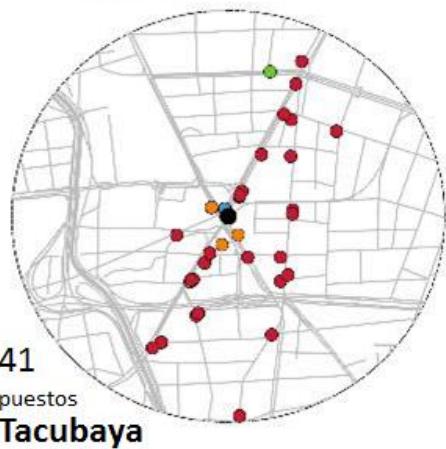
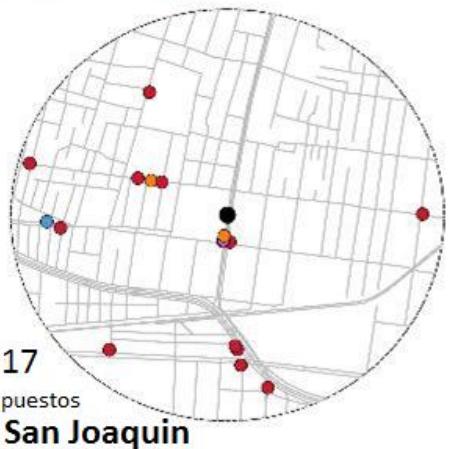


Citywide phenomenon





Informal Vending by Station



- abarrotes
- ropa
- comida
- flores
- farmacias



Regulation



Tenochtitlán as a market state

- "A practice rooted in the country's collective memory"*



Reglamento de Mercados

- Eight categories of vendors
- Set days for the tianguis
- City government control over the permanent markets
- Permission for organizations over 100 members to register with the city



Programa de Rescate

- Displacement of vendors from the Centro Histórico
- Organizations' resistance
- Practice of *torear* strategies

2015: "Zero Tolerance" on Metro

- 382 vendors detained and 301 evicted August 18

Before
1520

1951

2001

2015



Unsuccessful Attempts



Ciudad Azteca



Metro Auditorio



Challenge

How can informal street vendors be incorporated into the redevelopment of CETRAMS?



Our Approach



International Best Practices



**On-site Vendor Surveys
Interviews**



**Metrics for
Informality**
Incorporated into
TOD Framework



**Citywide Policy
Recommendation**
Illustratively Applied to
Cuatro Caminos



Interviews in Jan (27)



*"The **leader** knows what is going on with the construction but he doesn't tell us. This stand is mine, the flower stand belongs to my wife and the games belong to my kid. **We will move somewhere else** but we don't know where. Some where relocated to the exit of the metro but **they pay huge rents.**"*

*"I was **relocated** from the construction site and now I need to walk around to sell my tortas. I **don't know what I will do** after the mall is finished."*



Services



Gaming



Electronics



Fresh foods



Restaurants



Dry goods



Clothes/Acc.



Interviews in March (70)





What questions did we ask?

The Stalls

- Stall Size and Type
- Types of Goods
- Time in Location
- Number of Employees

Hours of Operation

- Days per week
- Opening Closing Times

Employee Stats

- Age
- Number of years in occupation
- Past occupations
- Motivation for entering field
- Location of residence

Freight and Logistics

- Restocking frequency
- Means of Transportation
- Where goods are purchased

Finances

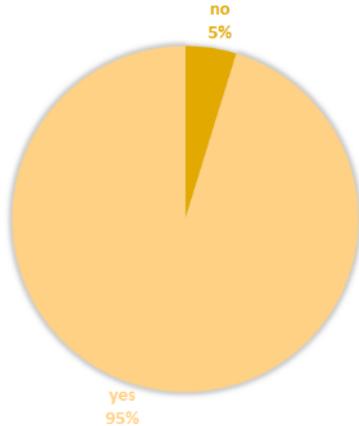
- Weekly revenue
- Weekly rent
- Rent for storage
- Business growing or in decline
- Source of start-up capital
- Bank account



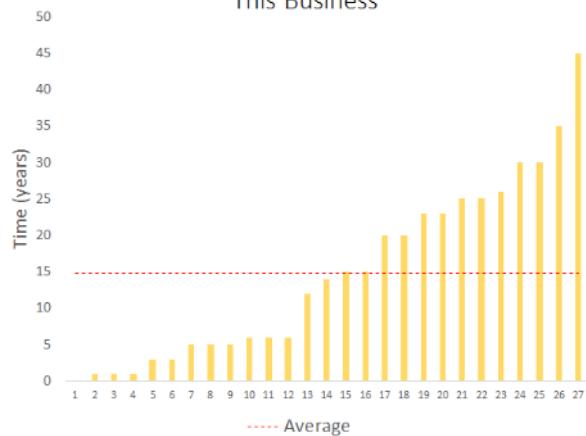
Key Takeaways - Pros



DO YOU LIKE THIS JOB?



Number Of Years Vendors Have Been In This Business





Key Takeaways - Cons



What do people find difficult?

- Getting displaced
- Setting up the goods everyday
- Transporting and hiding the merchandise
- Dealing with rain and bad weather



Informality Metrics

- VERY GOOD (Green)
- GOOD (Yellow)
- POOR (Orange)
- VERY POOR (Red)

TOD Element Name	CUATRO CAMINOS	EL ROSARIO	SAN JOAQUÍN	TACUBAYA
Services and Utilities	Yellow	Orange	Yellow	Yellow
Waste Removal	Yellow	Grey	Grey	Yellow
Refridgeration	Red	Red	Red	Red
Access to Storage	Yellow	Orange	Red	Orange
Protection from Inclement Weather	Yellow	Red	Red	Orange
Access to Foot Traffic	Green	Orange	Yellow	Yellow
Avoids Congestion	Red	Yellow	Green	Orange
Health Standards	Orange	Orange	Orange	Orange
Liveliness of the Streetscape	Yellow	Red	Yellow	Yellow
Protected Vending Locations	Red	Red	Yellow	Yellow

STATION AREA TYPOLOGIES

Typologies

Motivation

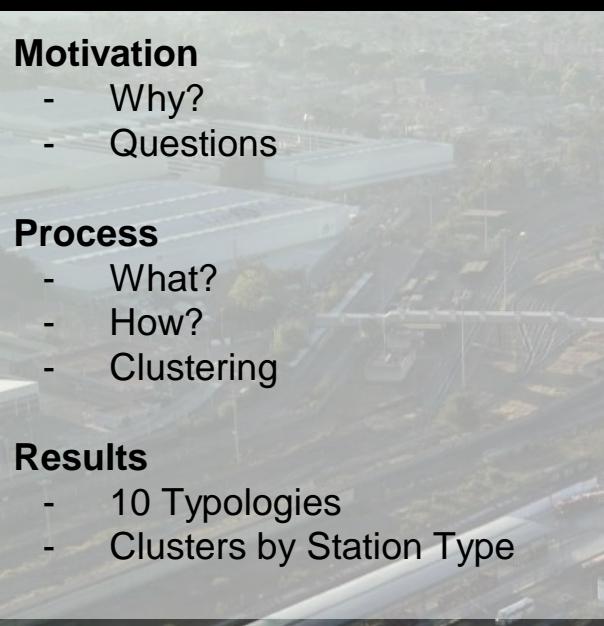
- Why?
- Questions

Process

- What?
- How?
- Clustering

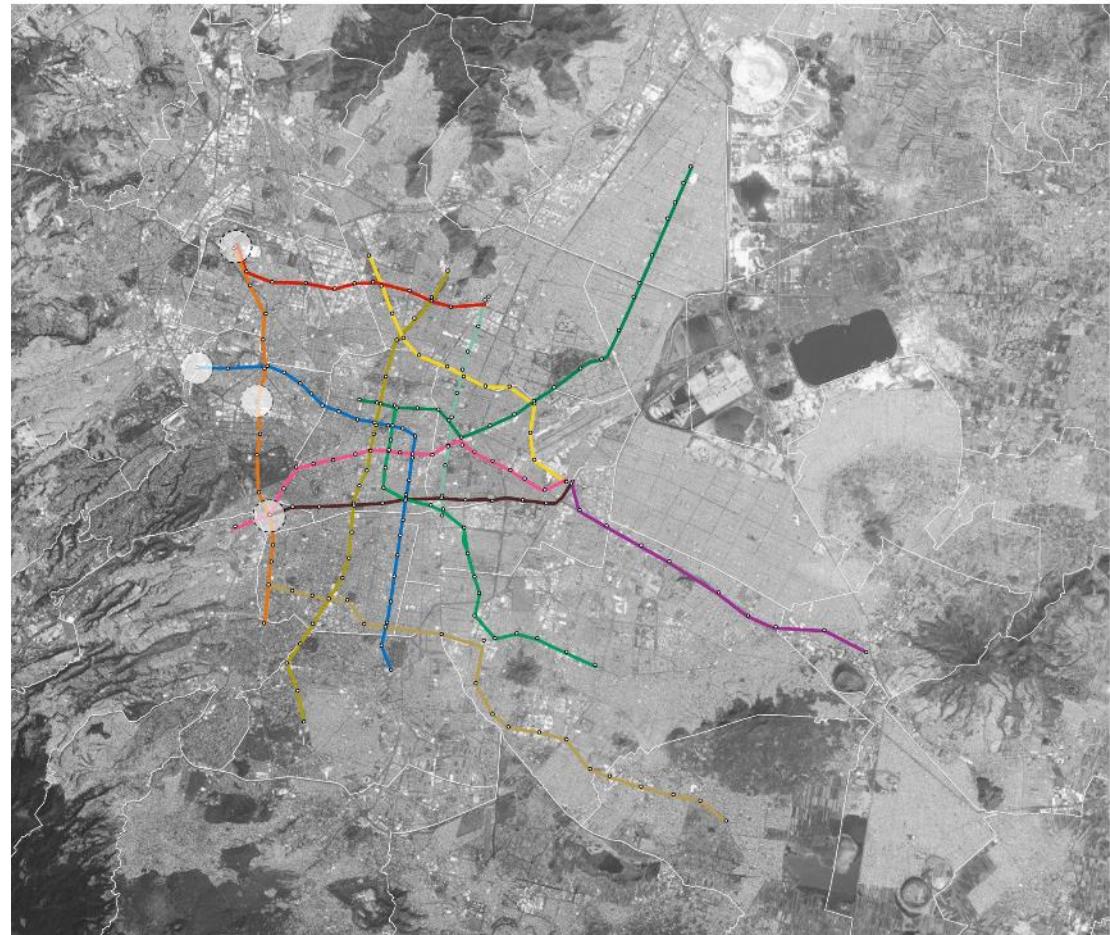
Results

- 10 Typologies
- Clusters by Station Type



Why?

- **163 subway stations** in ZMVM
- **Station and neighborhood characteristics** help us distill their key features.
- Key features help us **understand the greater system** in a **more compact and useful way**.



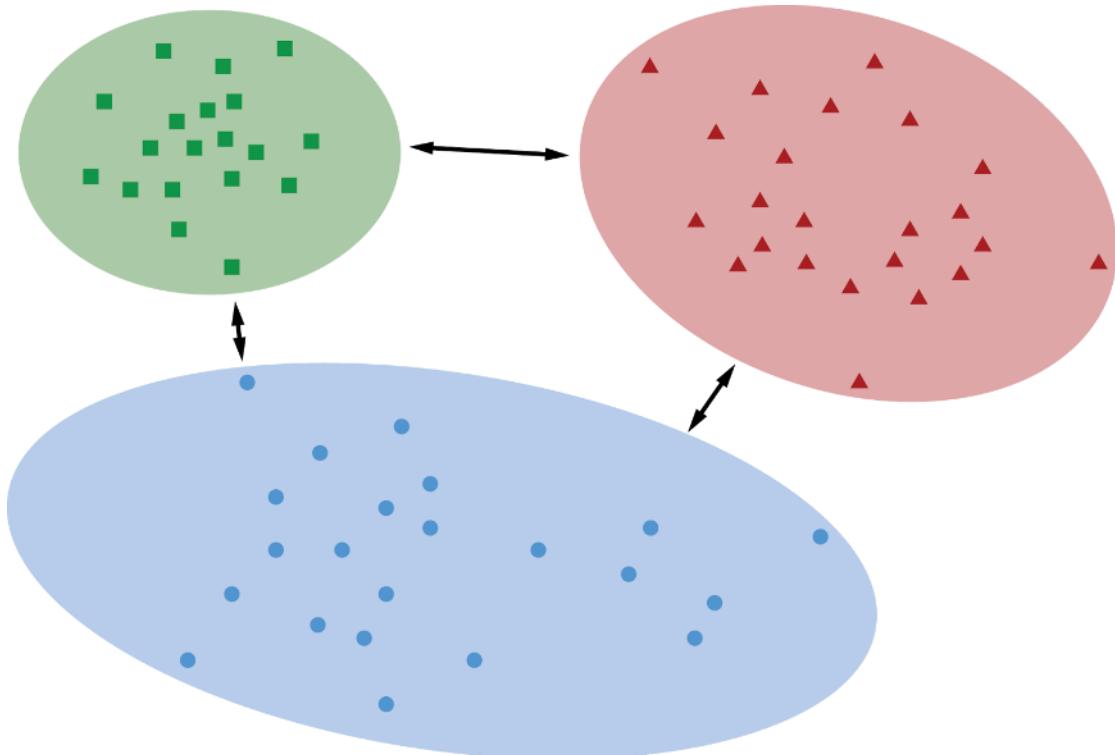
Questions

1. Which characteristics should be used to group the stations?
1. What do these groupings mean for the TOD approaches we are proposing?
1. Can we use this strategy help the CDMX develop a city-wide TOD policy?

What?

Typologies

A way to group observations according to their similarities (or dissimilarities)



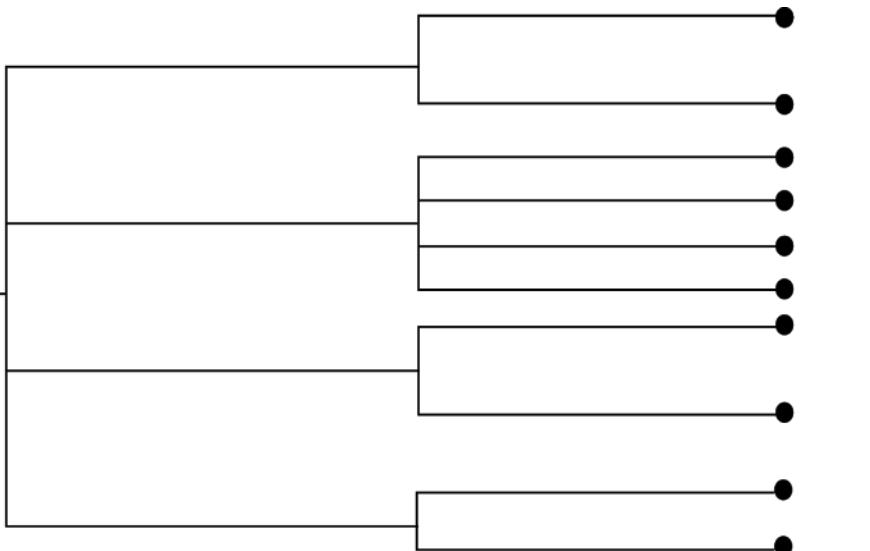
How?

Variable	Definition	Purpose	Source
Ridership	Ridership of the station	<ul style="list-style-type: none">-To understand line demand and capacity-Size of market	Agencies
Avg. Sale Price	Average sale price of homes within a 800 m buffer	<ul style="list-style-type: none">-To understand the income level of the neighboring area-Development opportunities	Intelimetrica
Walkshed ratio	Ratio of area to which you can walk in 800 m to an 800 m radius	<ul style="list-style-type: none">-To understand the walkability of the neighboring area-Walking market of a station	OpenStreetMaps

Clustering

We used a two-stage clustering algorithm to group the stations

163 SUBWAY STATIONS



STAGE 1
STATION TYPE
CETRAM, depot, terminal

STAGE 2
STATION AREA CHARACTERISTICS
Income, ridership, walkshed ratio

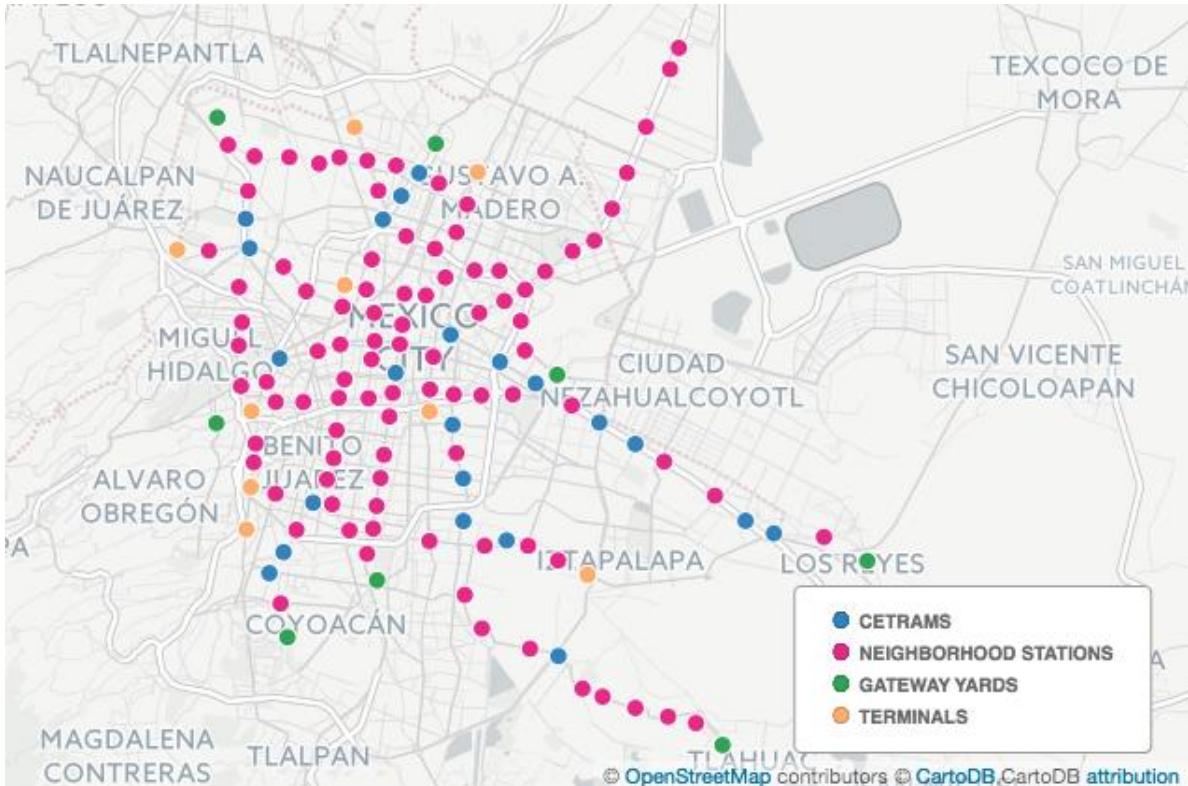


HOW do we do TOD?
In terms of physical and institutional limitations

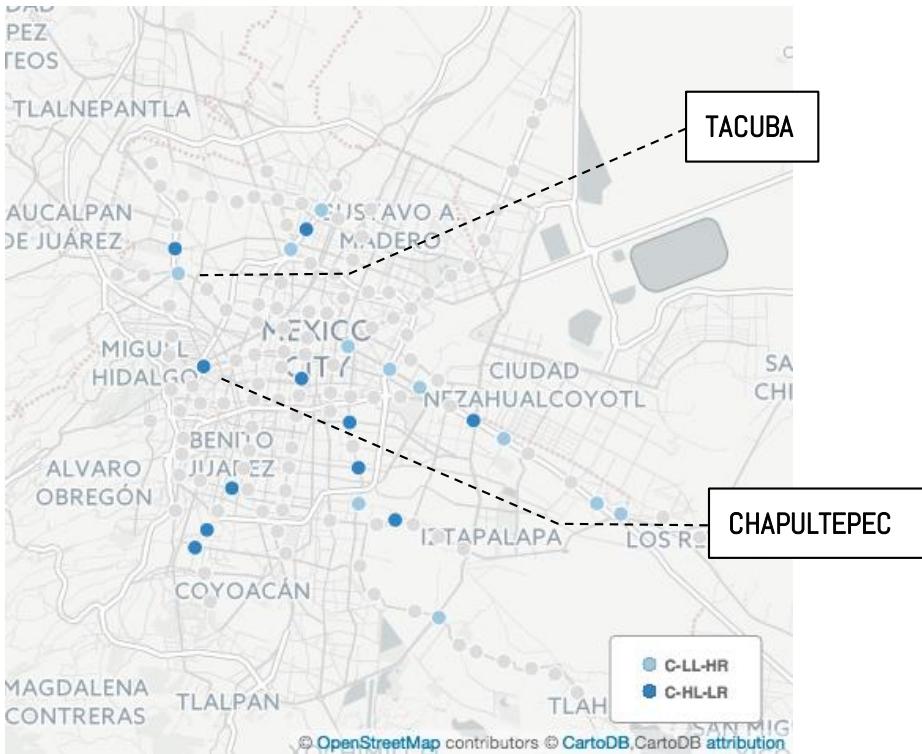
WHERE do we do TOD?
In terms of opportunities

10 Typologies - 4 station types

- *Local Stations* - 120
 - **Neighborhood Stations**
- *Main Stations* - 43
 - **CETRAMs**
 - **Gateway Yards**
 - **Terminals**



Station Type 1 - CETRAMs



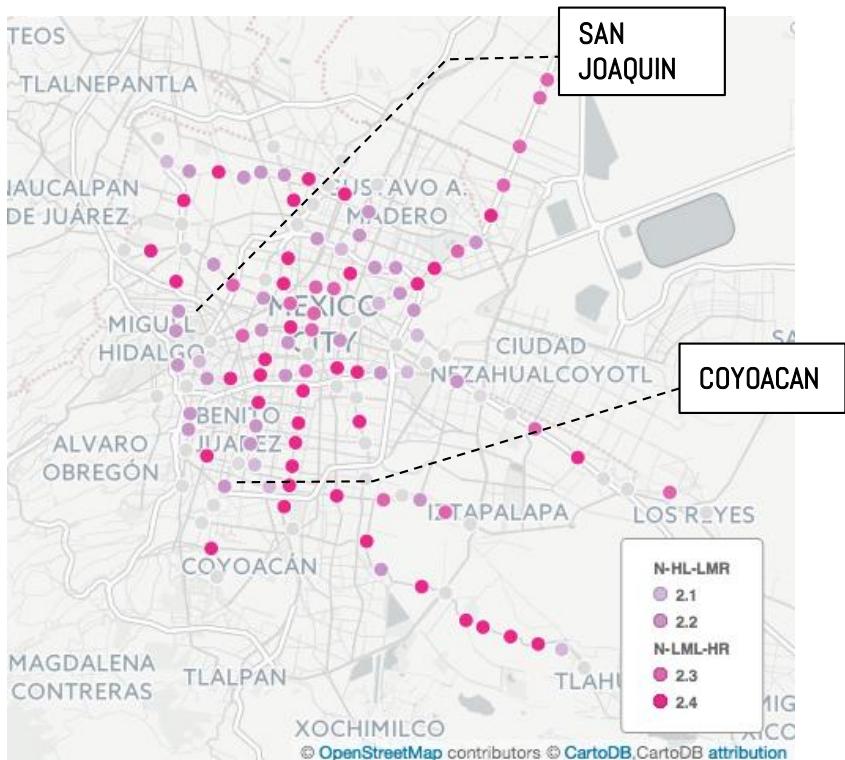
C-LL-HR: Low Land Value/High Ridership

- Many elevated or at grade tracks
- Smaller walksheds
- Fewer jobs than other station types
- Includes: Acatitla, Tacuba, Zaragoza, ...

C-HL-LR: High Land Value/Lower Ridership

- More underground subway
- Bigger walkshed
- Fewer jobs than other station types
- Includes: Balbuena, Iztapalapa, Chapultepec, ...

Station Type 2 - Neighborhood Stations



N-HL-LMR

High Land Value/Low-Medium Ridership

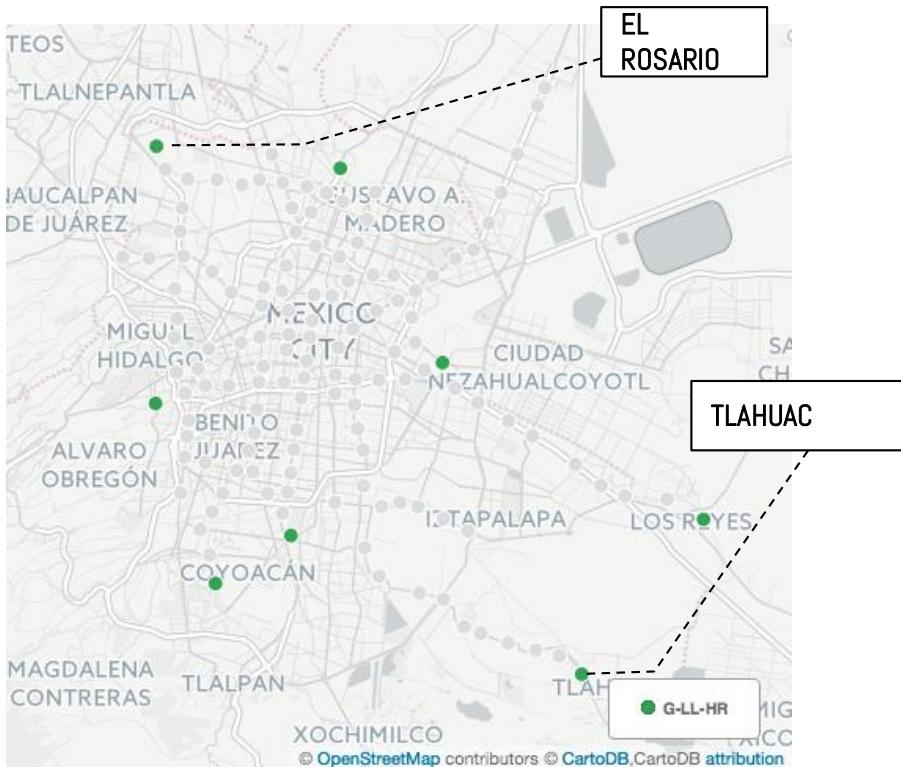
- Low intermodal connectivity
- Opportunities for Residential
- Includes: Auditorio, Constituyentes, Cuauhtémoc

N-LML-HR

Low-Medium Land Value/High Ridership

- Good intermodal connectivity
- Opportunities for Commercial
- Includes: Insurgentes, Ecatepec, San Joaquín

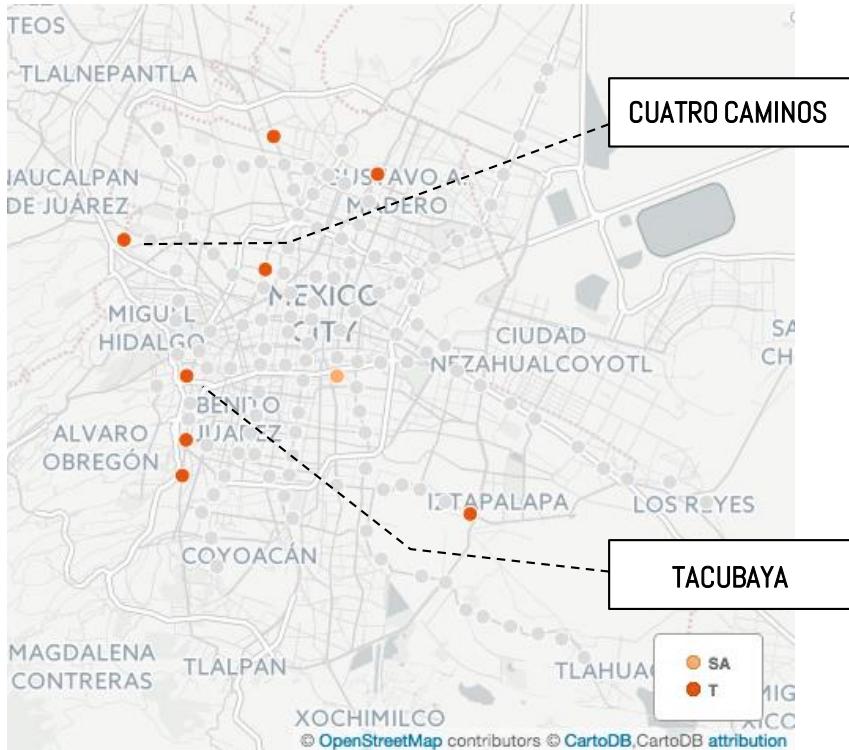
Station Type 3 - Gateway Yards



G-LL-HR: Low Land Value/ High Ridership

- HIGH ridership
- Relatively low walkability and disconnected
- Fewer jobs in station areas than other types
- They are found in the fringes of Mexico City,
- At-grade tracks
- Yards: Can we build on it? Is the market strong enough?
- Clear opportunity for commercial
- Includes: Ciudad Azteca, Observatorio, Pantitlán

Station Type 4 - Terminals



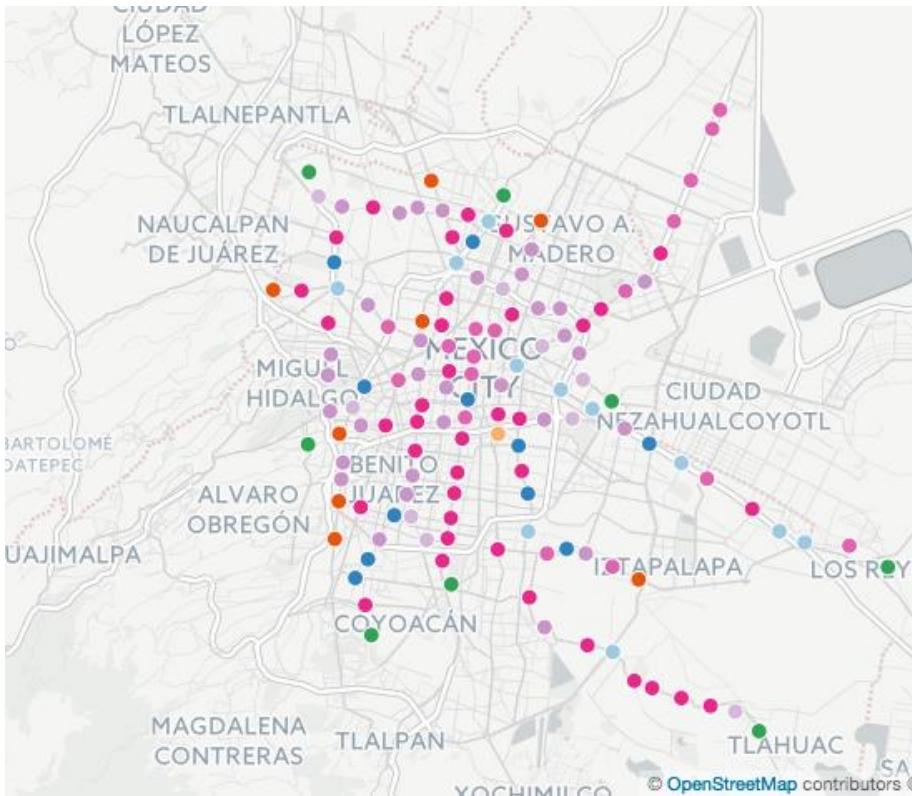
SA: Santa Anita

- Outlier
- Low ridership
- Inner-city terminal with low connectivity

T: Terminals

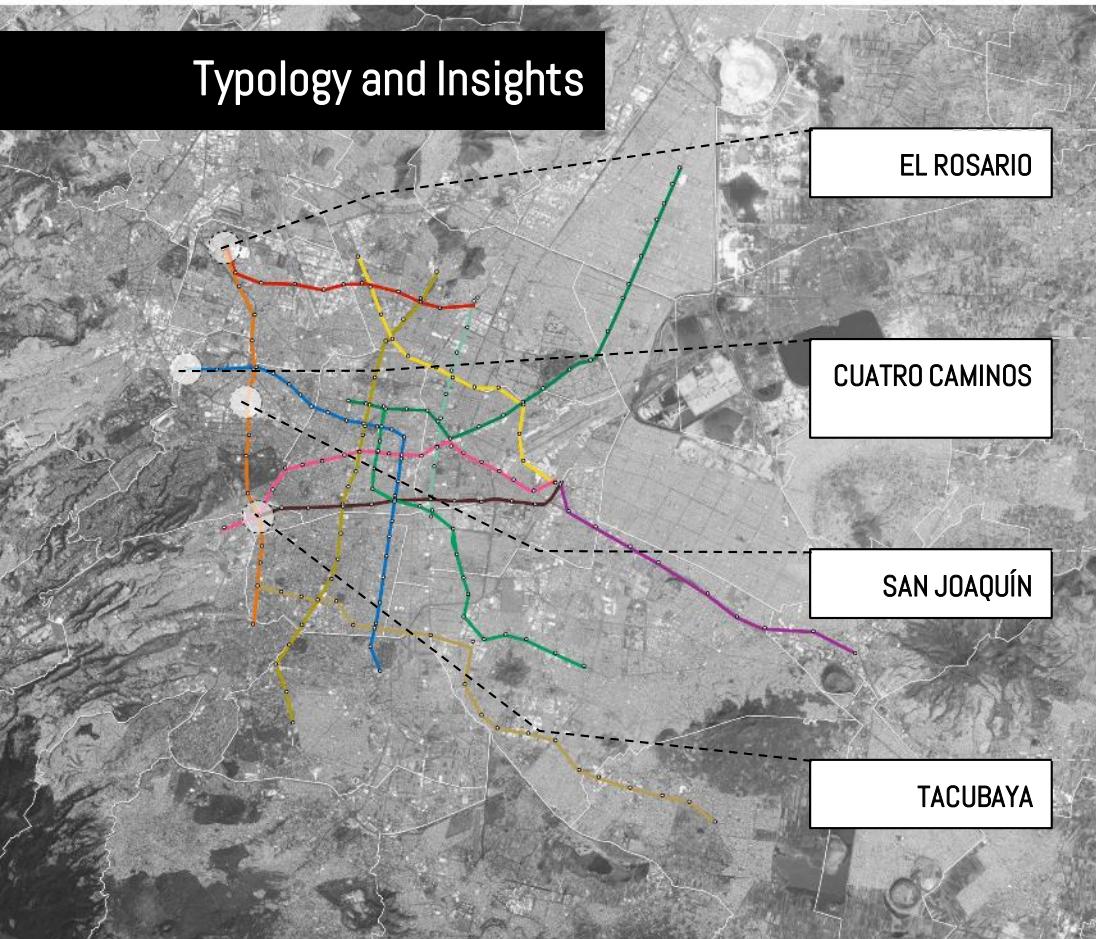
- Medium-to-high Ridership
- CETRAMs
- High ridership compared to rest of system stations except for 3
- Medium sales price,
- Mid-range walkshed
- Includes: Cuatro Caminos, Tacubaya, Garibaldi

Summary



Color Dot	Name	#	Development Potential?
	C-LL-HR	12	Commercial
	C-HL-LR	12	Residential
 	N-HL-LMR	46	Dense Residential/Office
 	N-LML-HR	74	Commercial
	G-LL-HR	9	Commercial
	SA	1	Land Value Capture and Extension
	T	9	Commercial/Lower Income Residential

Typology and Insights



Typology

Gateway yard
G-LL-HR

Key Insights

- Very high ridership,
- Largest availability of government-owned land
- Needs large-scale physical interventions
- Can the yards support development?

Terminal **T**

- State of Mexico
- limited pedestrian access
- Can you leverage pedestrian traffic from transfers and interstate travel?

Neighborhood station **N-LML-HR**

- Low ridership
- Good pedestrian connectivity
- Neighborhood-level strategies
- Less availability of government land
- Diverse opportunities

Terminal **T**

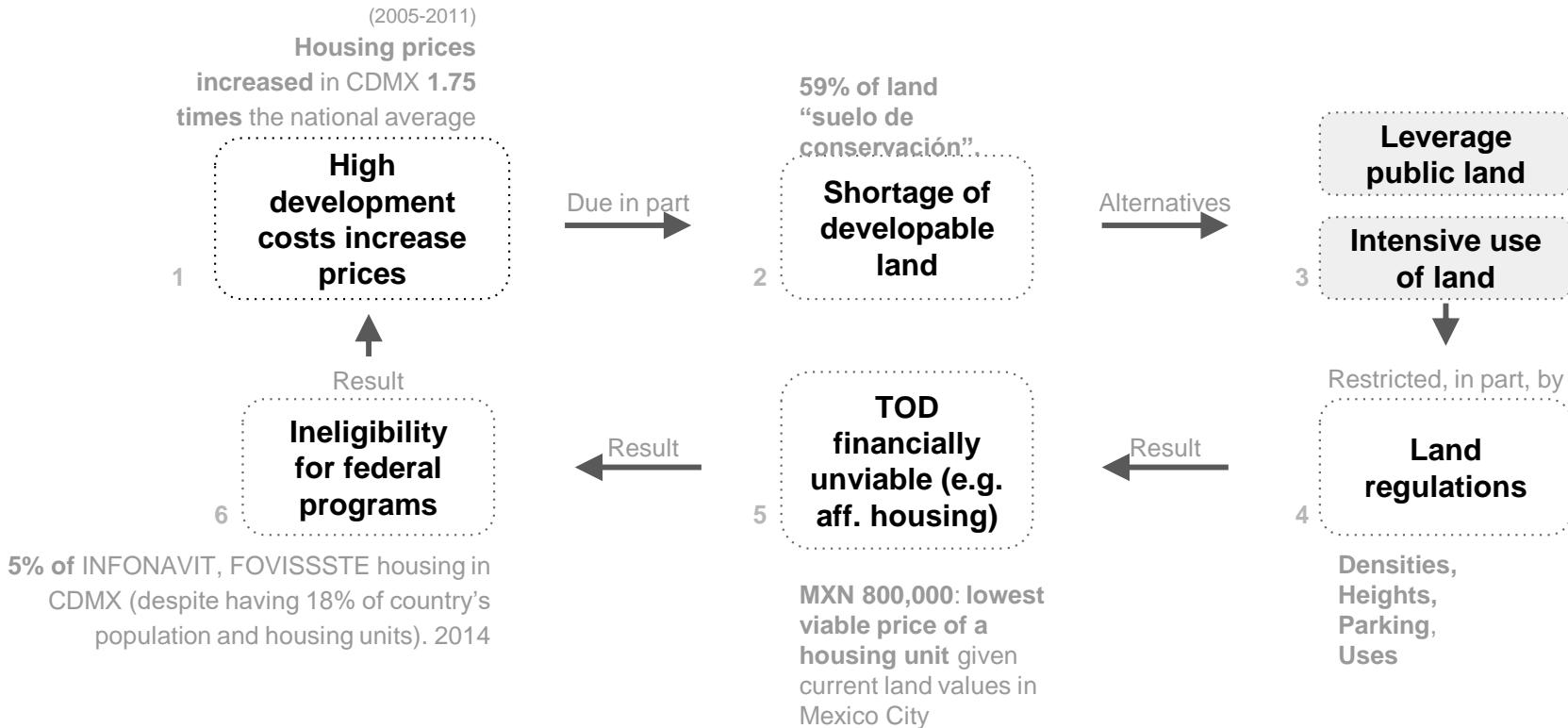
- Inner-city terminal
- High ridership but low non-motorized accessibility
- How to organize transfers and revitalize neighborhood?



City-wide TOD Policy

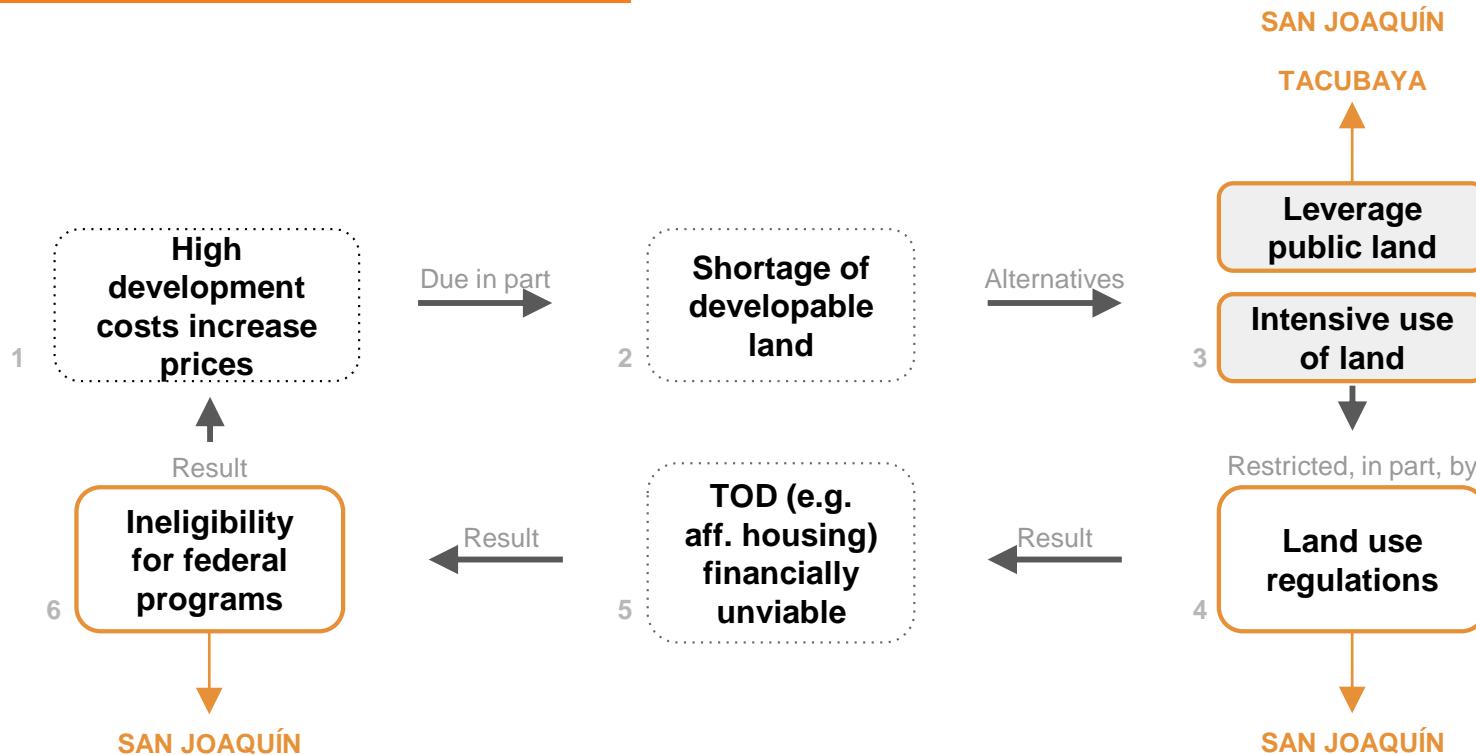


Challenges for TOD



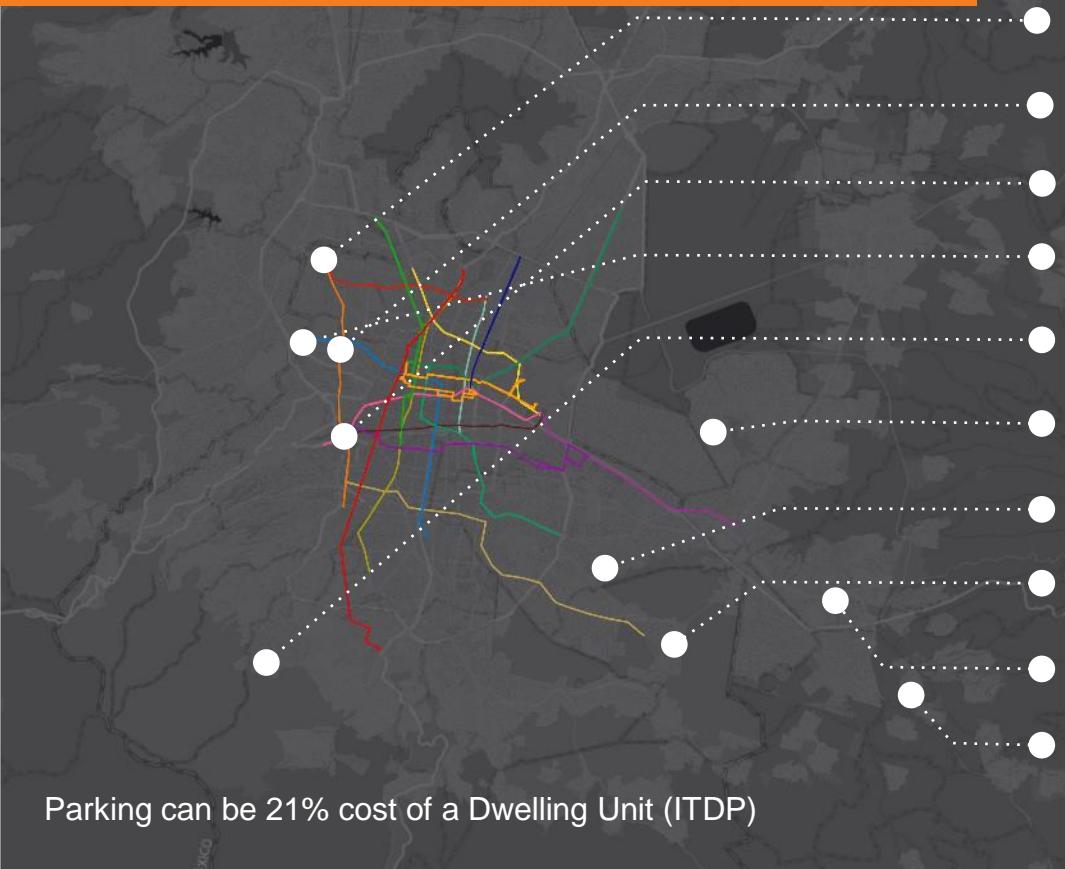


Challenges for TOD





Absence of TOD Criteria in Regulations



Parking can be 21% cost of a Dwelling Unit (ITDP)

Neighborhoods in	Max. FAR	Min. Parking / DU
Rosario	2.1	
San Joaquín	2.1 (few 3.5)	1 / 65m ²
Tacubaya	1.4, 4.2	
4 Caminos	4.2	
Tlalpan ⁽¹⁾	2.1	1 / 65m ²
Chimalhuacán ⁽²⁾	2.25	0.5 / 72m ²
Iztapalapa ⁽³⁾	1.8	1 / 65m ²
Tláhuac ⁽⁴⁾	1.8	1 / 65m ²
Ixtapalapa ⁽⁵⁾	3.2	1 / 120m ²
Chalco ⁽⁶⁾	3.2	

1) Pedregal San Nicolás, Héroes de Padierna; 2) Tejedores, Alfareros; 3) Quetzalcóatl, Hank Glez., Reforma Política; 4) Ampliación Selene; 5) Santa Cruz Tlapacoya; 6) Héroes de Chalco



General TOD Policy Idea



Create Special Regulatory and Financing Frameworks with TOD criteria at specific zones

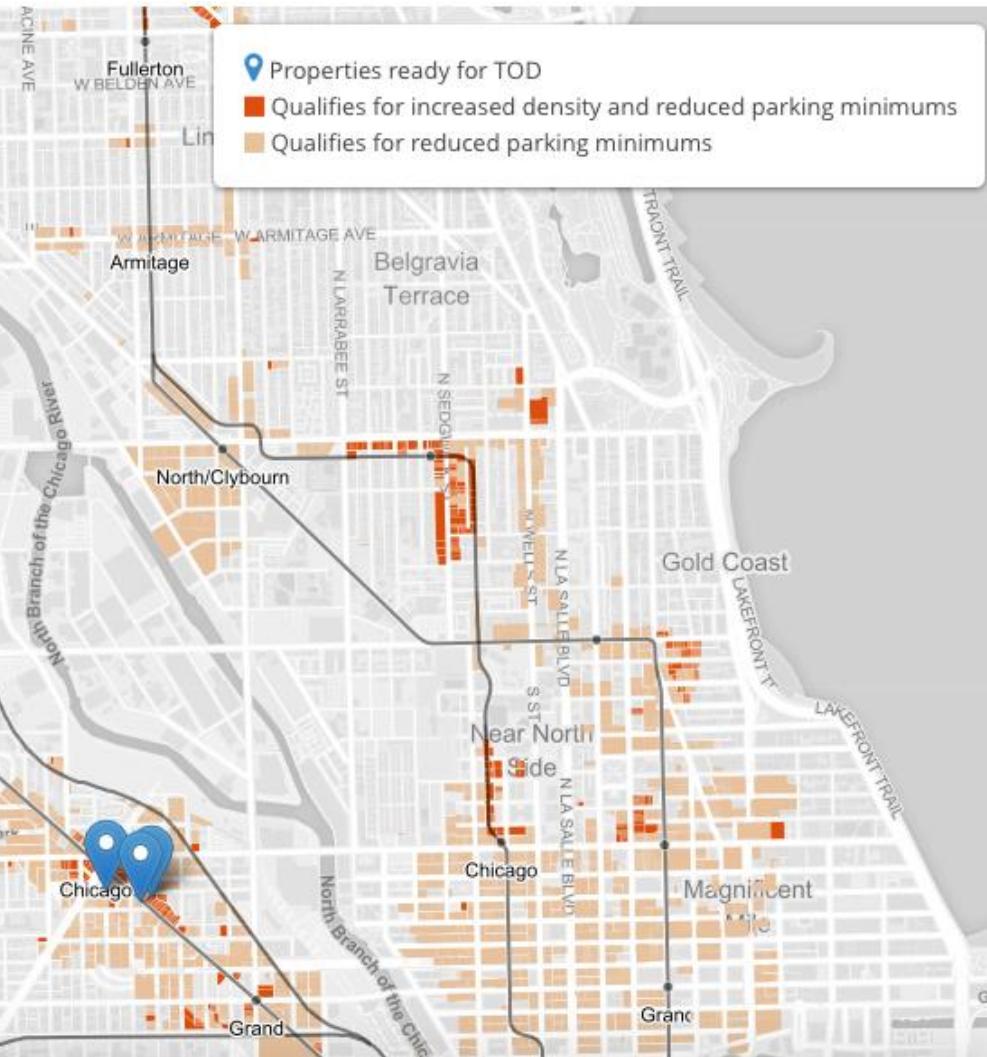
City-wide TOD Policy: Chicago



Humboldt

Chicago's 2015 TOD Ordinance

- **½ mile buffer from stations**
- **17-33% more FAR (aff. housing)**
- **100% less Parking (non-residential)**
- **50% less Parking (residential)**
- **Additional height (commercial ground-floor)**
- **Minimum lot area / DU from 400 to 300 sq. ft.**





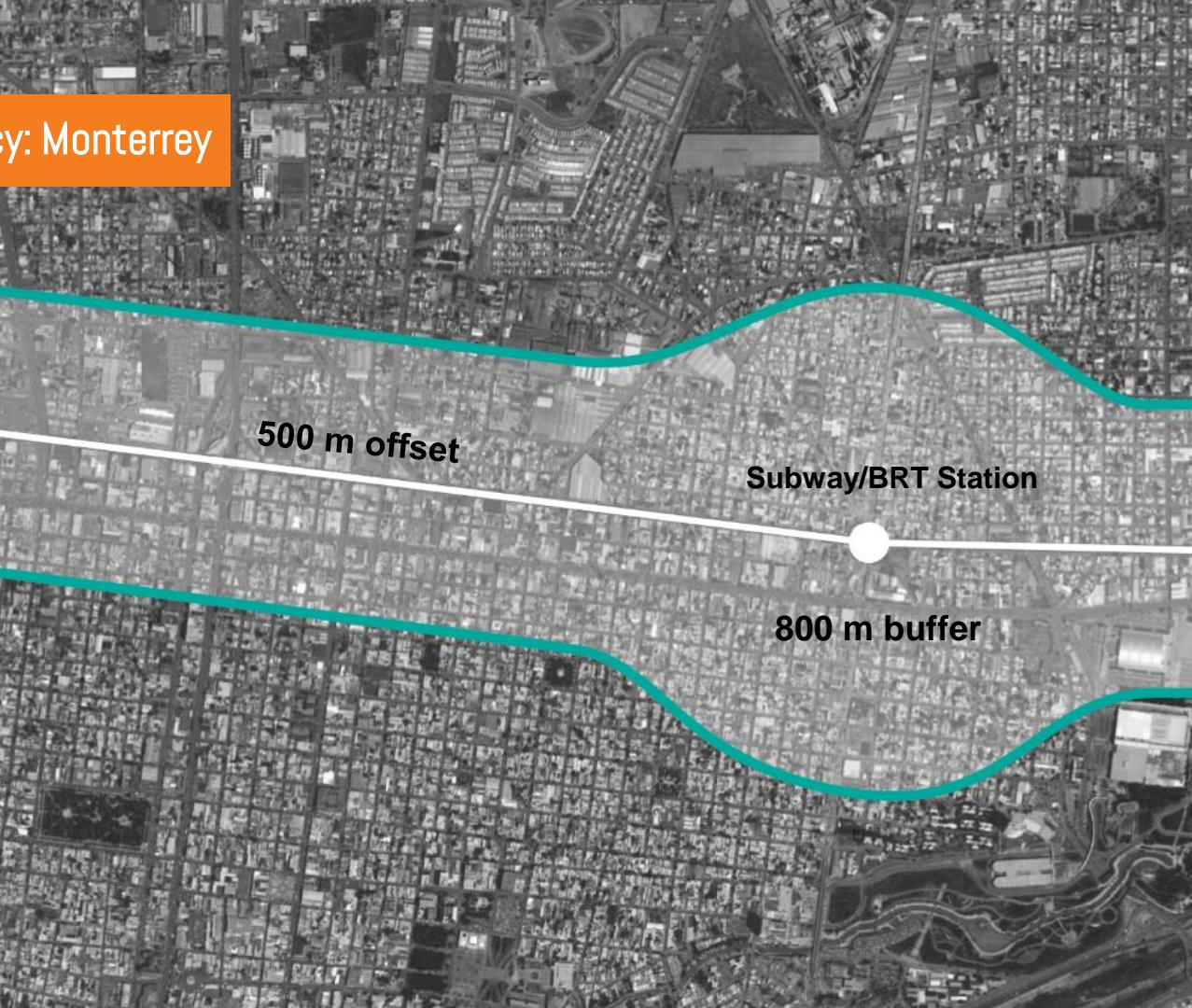
City-wide TOD Policy: Monterrey

Monterrey's 2014 TOD Ordinance

Art. 73 of the Zoning and
Land Use Code:

1. 100% **additional height***
1. 100% **additional FAR***
1. 50% **less parking**
1. Allows land assembly

* Parcels > 2,000m²



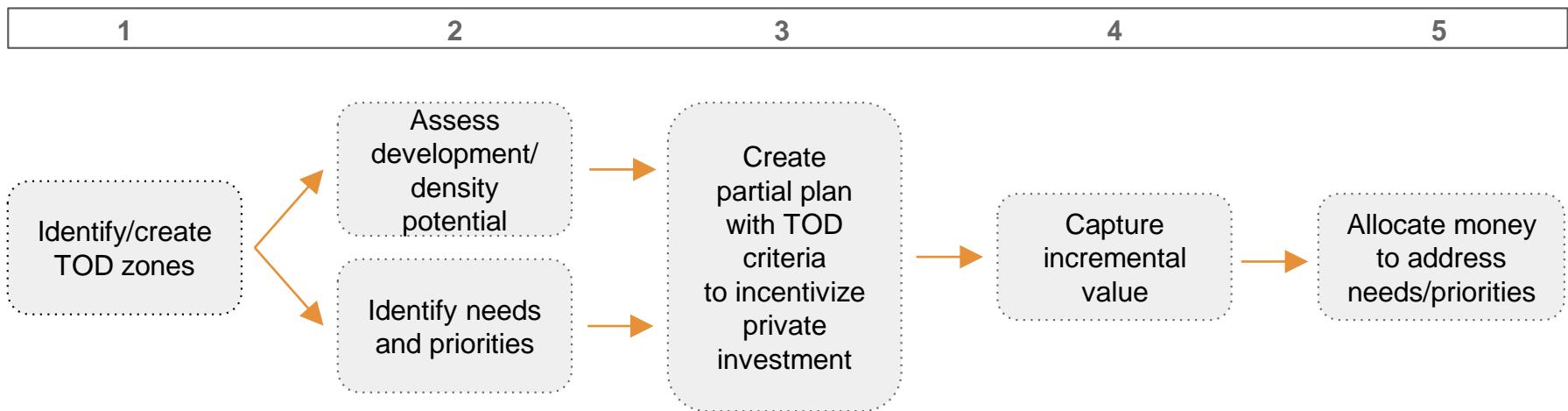


Review of Instruments: CDMX

	Plan Parcial	SAC	→	Overarching Framework
Special land use regulations at site (e.g. uses, heights, densities, parking)	✓	✗		✓
Site-specific	✓	✓		✓
Special financing scheme at site	✗	✓		✓
Authority	Delegación	SEDUVI		SEDUVI + Delegación



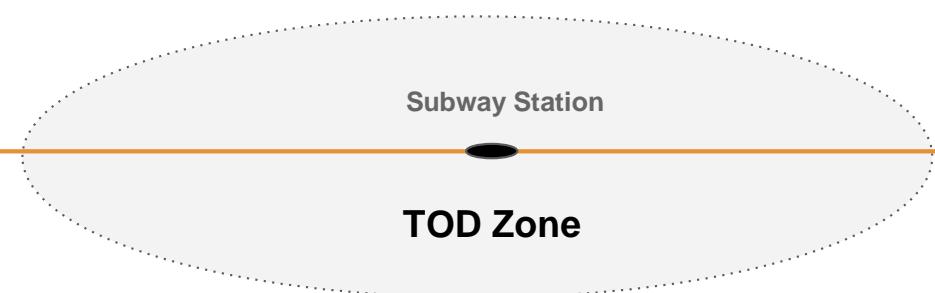
TOD Zone Policy





Identify/Create TOD Zone

- Boundary according to **typology** of station/area
- Incorporate **walkshed** methodology (e.g. 800m buffer)
- Use **existing** boundaries if **SAC** is in place
- **Other criteria** (e.g. socio-demographics) can inform boundary



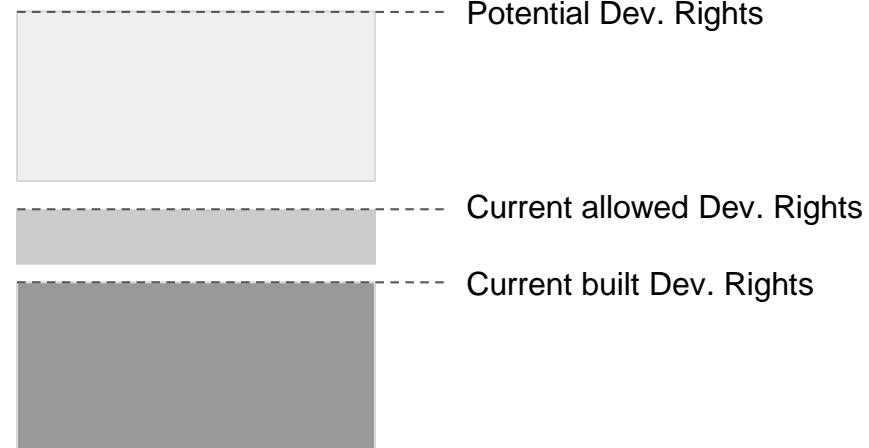


Needs/Priorities and Development Potential

Identify Needs and Priorities

- Needs and priorities based on typologies of station/area
- For example:
 - Accessibility
 - Affordability
 - Design
 - Informality

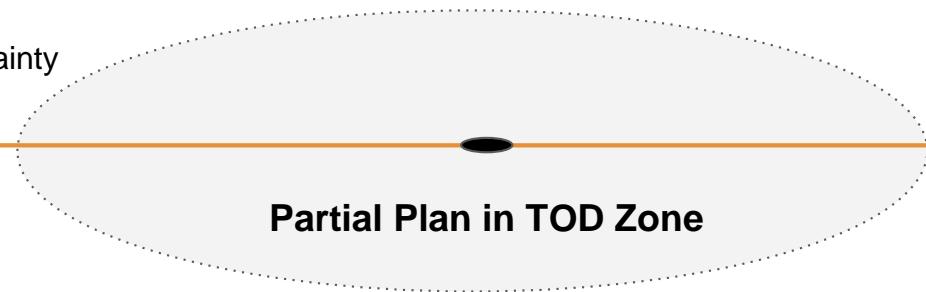
Assess Development Potential





Partial Plan to Incentivize Private Investment

- Partial plan with **TOD vision** based on needs/priorities and development potential
- New land use **regulations to incentivize** private investment:
 - Increased densities
 - Increased heights
 - Reduced parking requirements
 - Land use changes
- **Fast-track permitting** as incentive and create legal certainty



Partial Plan in TOD Zone



Capture Incremental Value

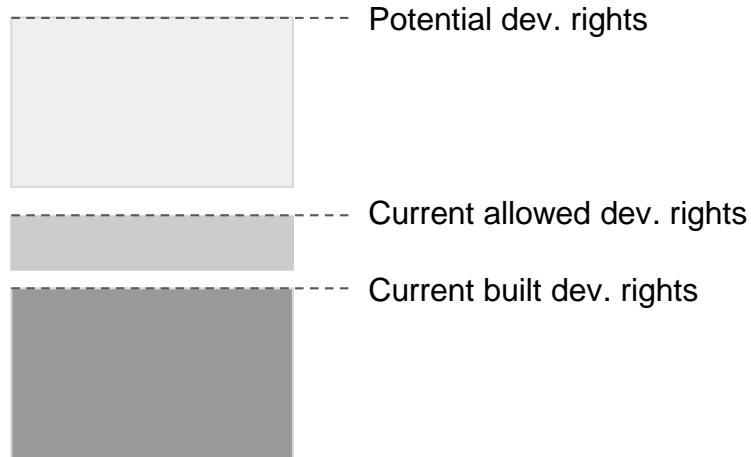


Value of development rights decided by gov't entity (e.g SEDUVI)

- Developer/landowner approach gov't entity with project proposal
- Evaluate proposal and estimate value increment and how value is shared between developer/landowner and gov't entity

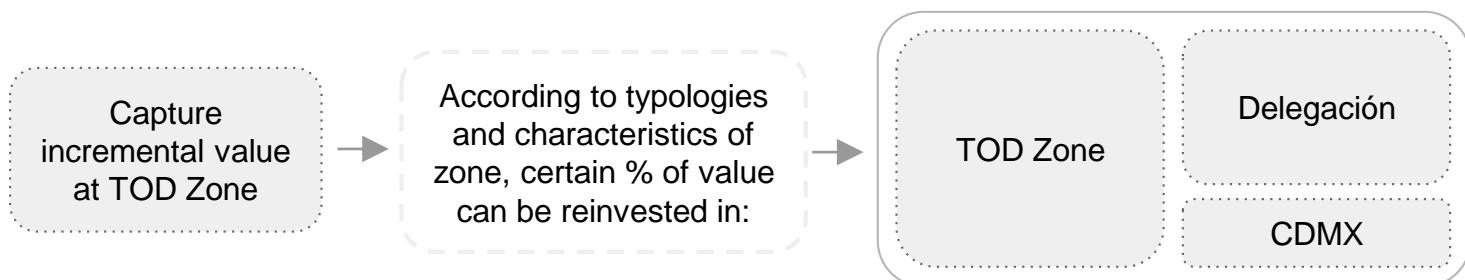
Value of development rights decided by auctions:

- Allows market to decide rate
- Transparency
- Generates instant revenue
- More efficient





Allocation of Resources

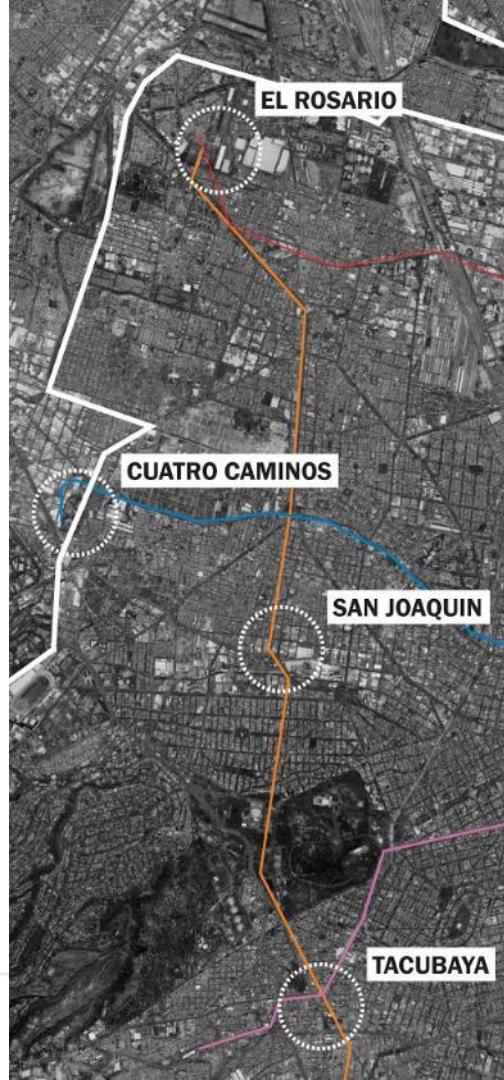
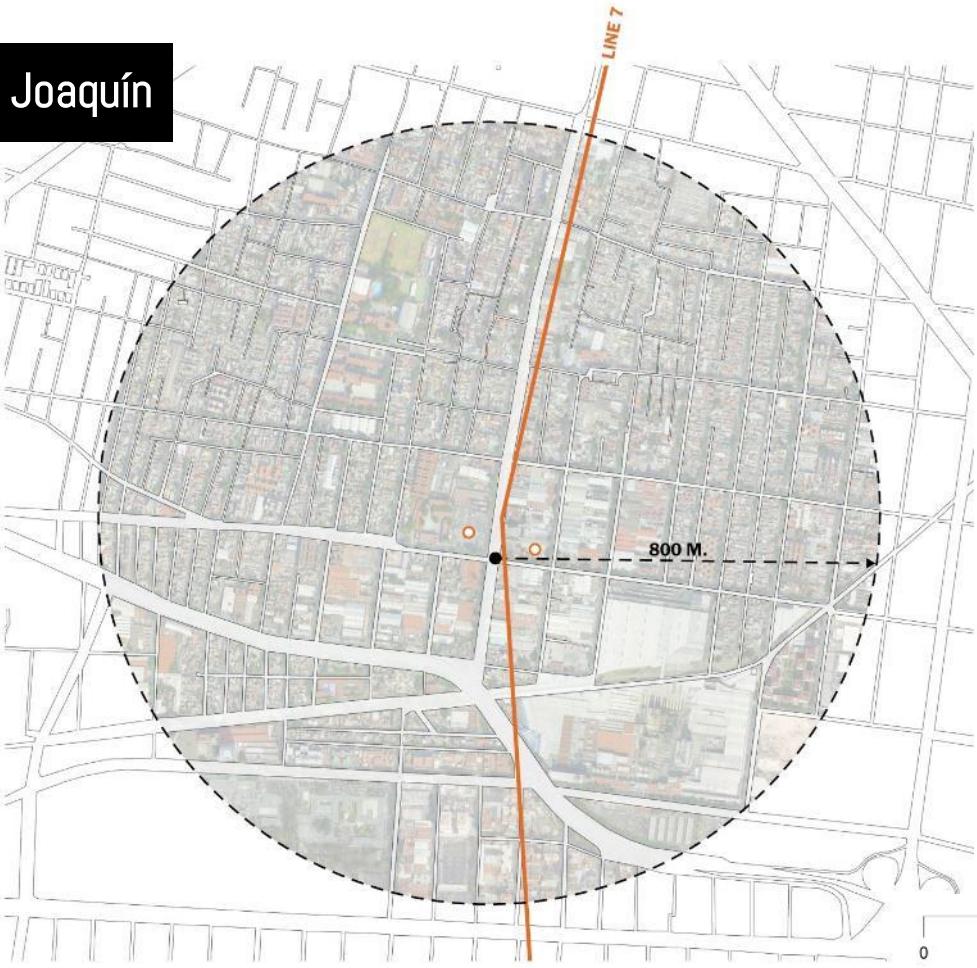


PROPOSED ACTIONS

SAN JOAQUÍN



San Joaquín



San Joaquín: Scorecard



Design

- **Poor** street legibility
- **Poor** human-scale streetscape, with large blocks and buildings



Affordability

- **Poor** in measures of household income
- **Poor** in measures of affordability, with the highest housing costs of the four sites
- **Poor** in measures of stability with housing prices rising an average of 17% per year from 2010-2014 (SHF), greater than the 6.5% per year for CDMX



Accessibility

- **Poor** accessibility score in non-motorized modes of transportation, with high variation
- **Very good** for basic trips accessibility
- **Poor** metropolitan accessibility, despite station's importance as a regional transportation hub

San Joaquín Recommendations



Affordability



Design

District-wide and station-specific strategies for
affordable neighborhood design



Accessibility



Design

District and station level design strategies for
travel mode integration

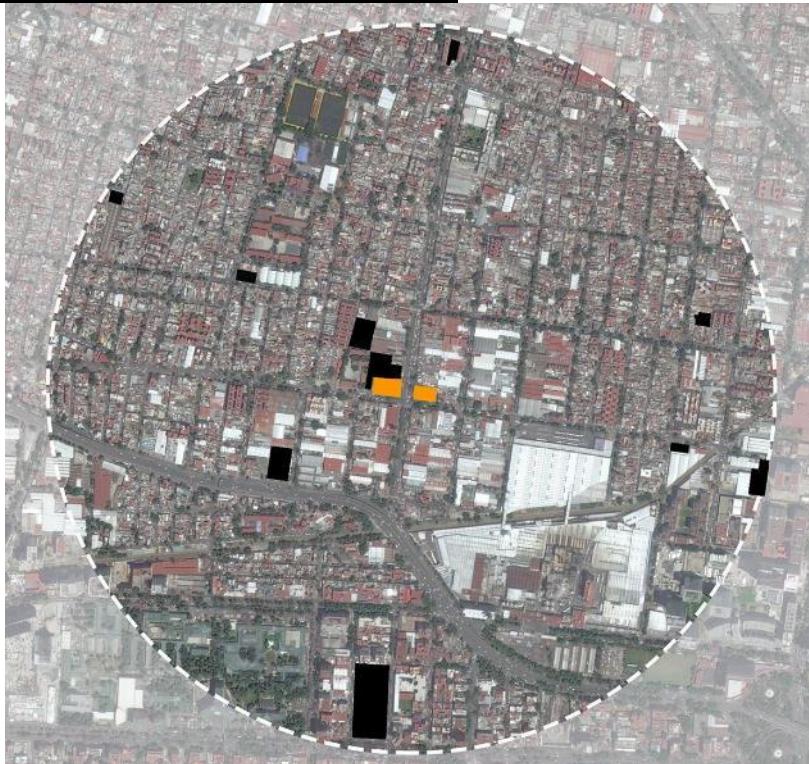


District-Wide Strategies

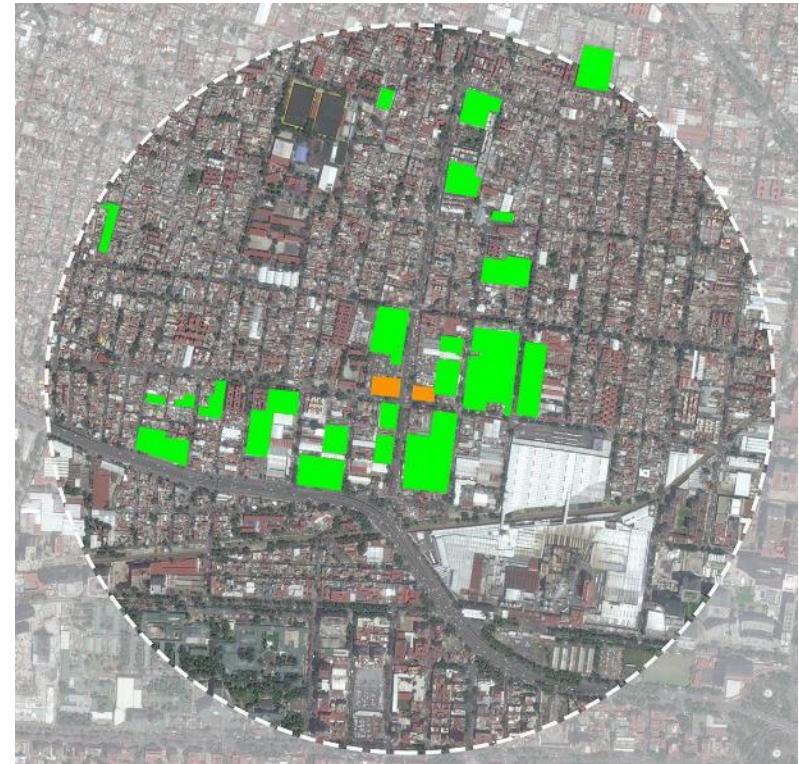
- **Goal:** Incentivize equitable TOD on underutilized parcels that improves open space and connectivity, through:

- Urban Form and Accessibility Design
- Affordability Requirements
- Development Incentives

Underutilized Parcels



Surface parking and other auto-oriented uses within an 800m buffer of San Joaquín station

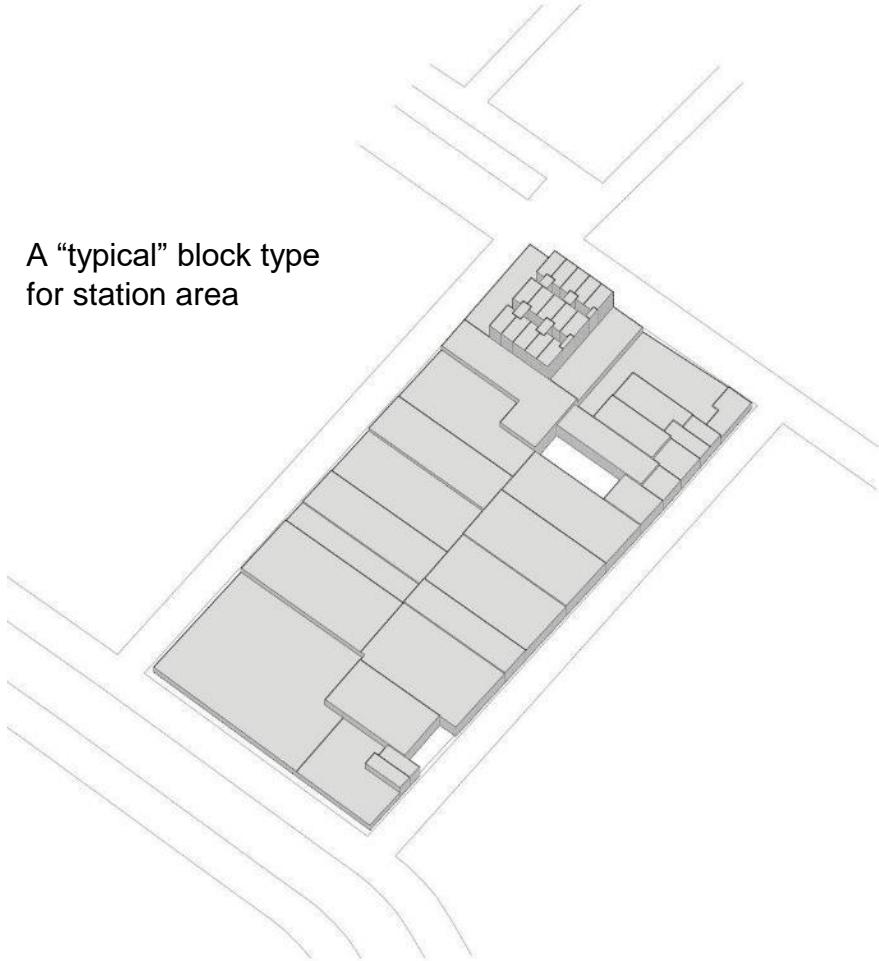


Low rise warehouse parcels (in green) within an 800m buffer of San Joaquín station

Existing District-Wide Conditions



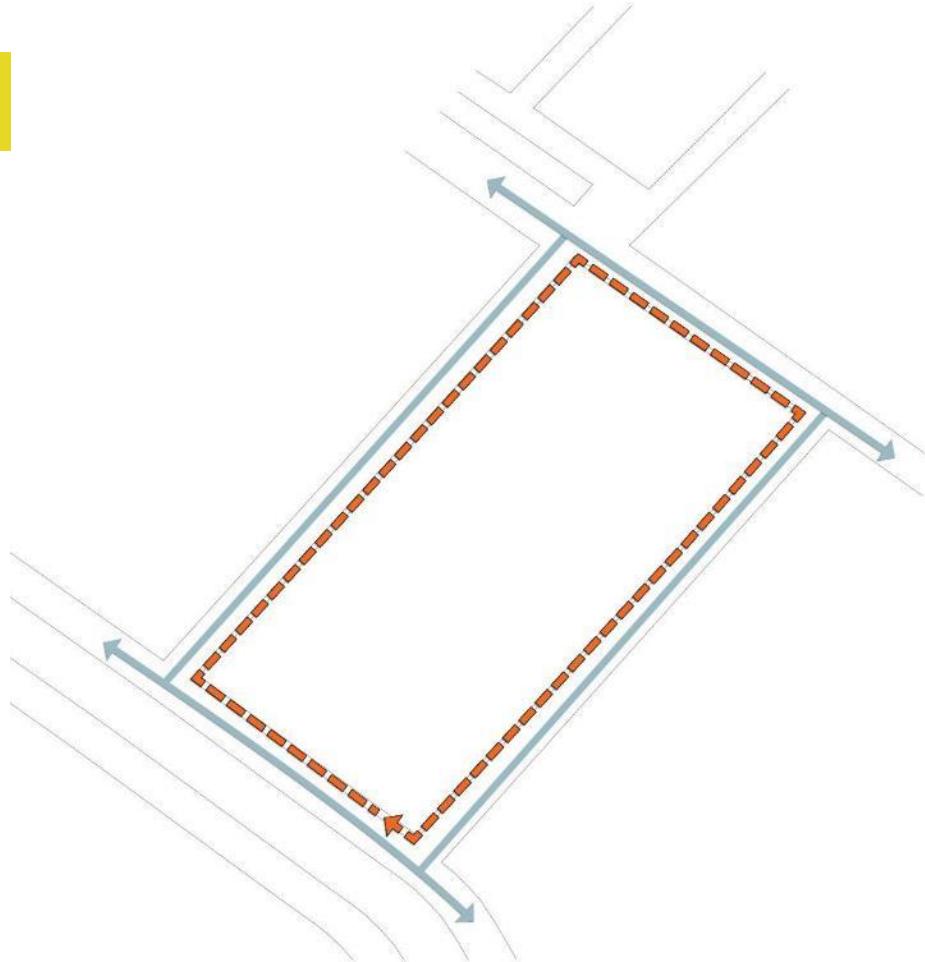
A “typical” block type
for station area





"Typical" Block Circulation

Current circulation pattern for a typical district block

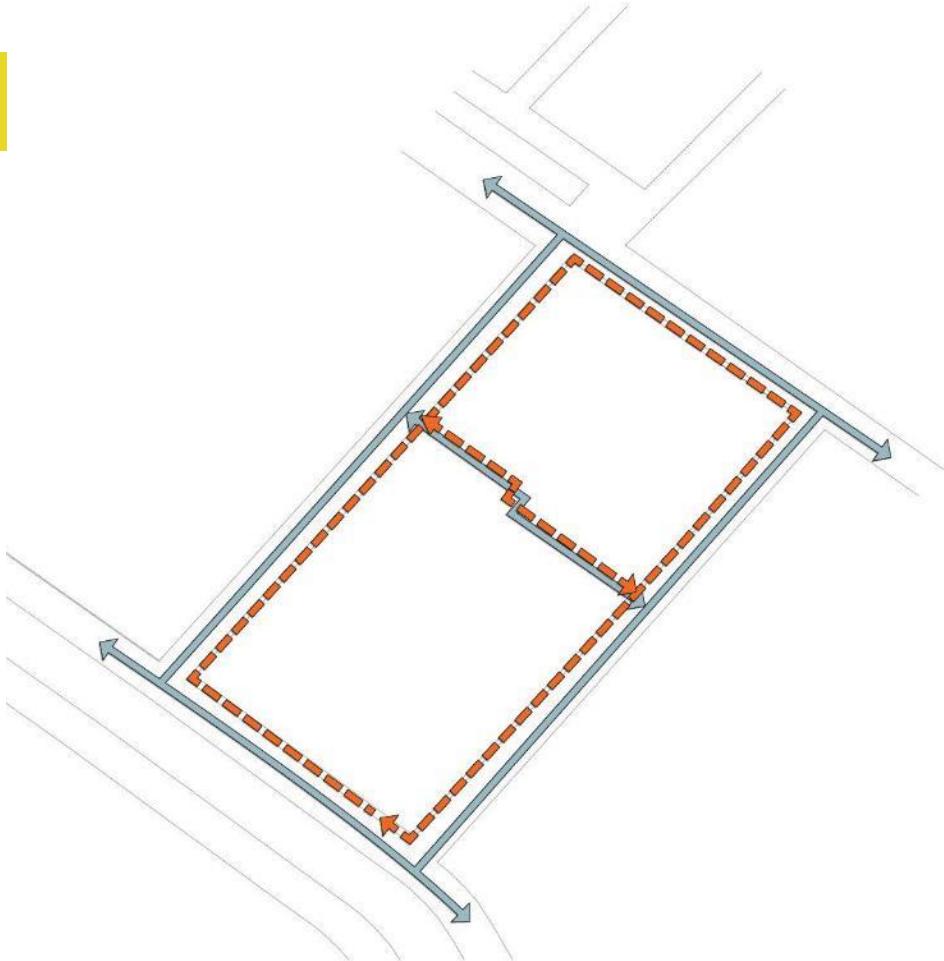




"Typical" Block Circulation

New circulation concept for a typical district block

- New streets bring new open space and public realm opportunities to the district





“Typical” Block Circulation

Available ground floor facade options with existing circulation pattern





"Typical" Block Circulation

Available ground floor facade options with **NEW** circulation pattern

- New streets increase opportunities for active ground floor uses and foster a symbiotic relationship between commercial units and public street life.

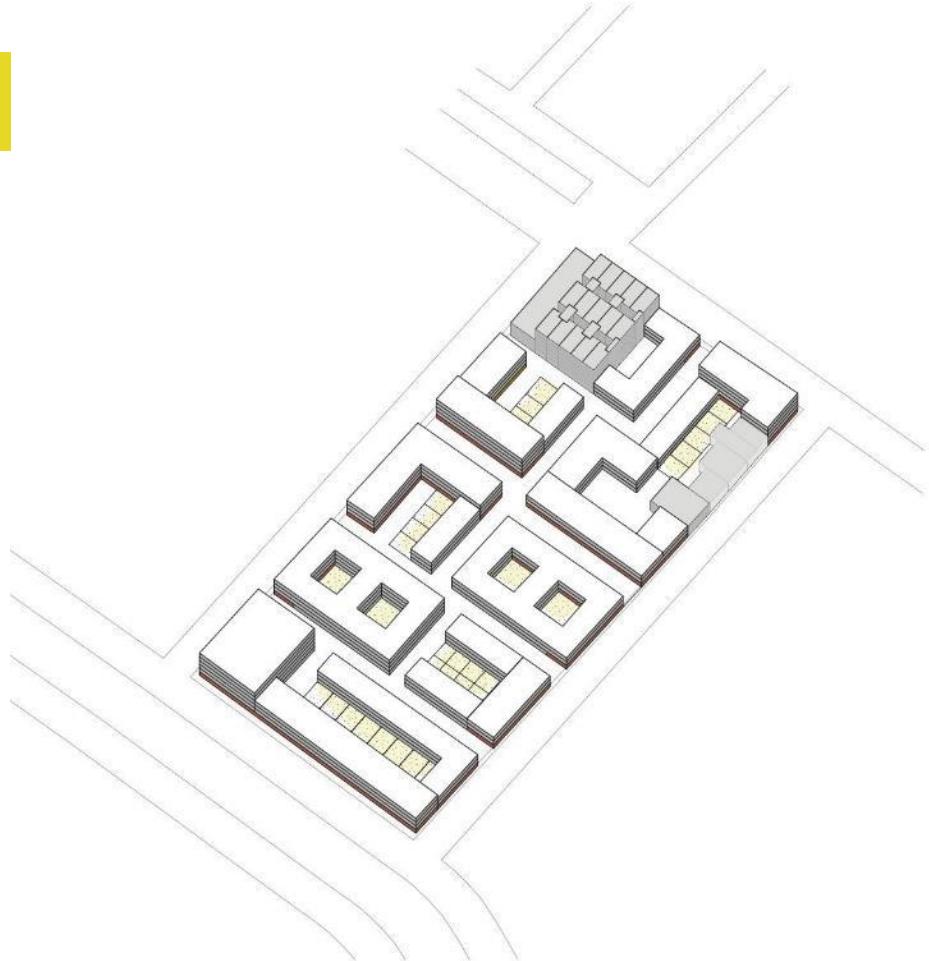




Designing for Affordability

Three tiers of potential development:

- **Tier 1**

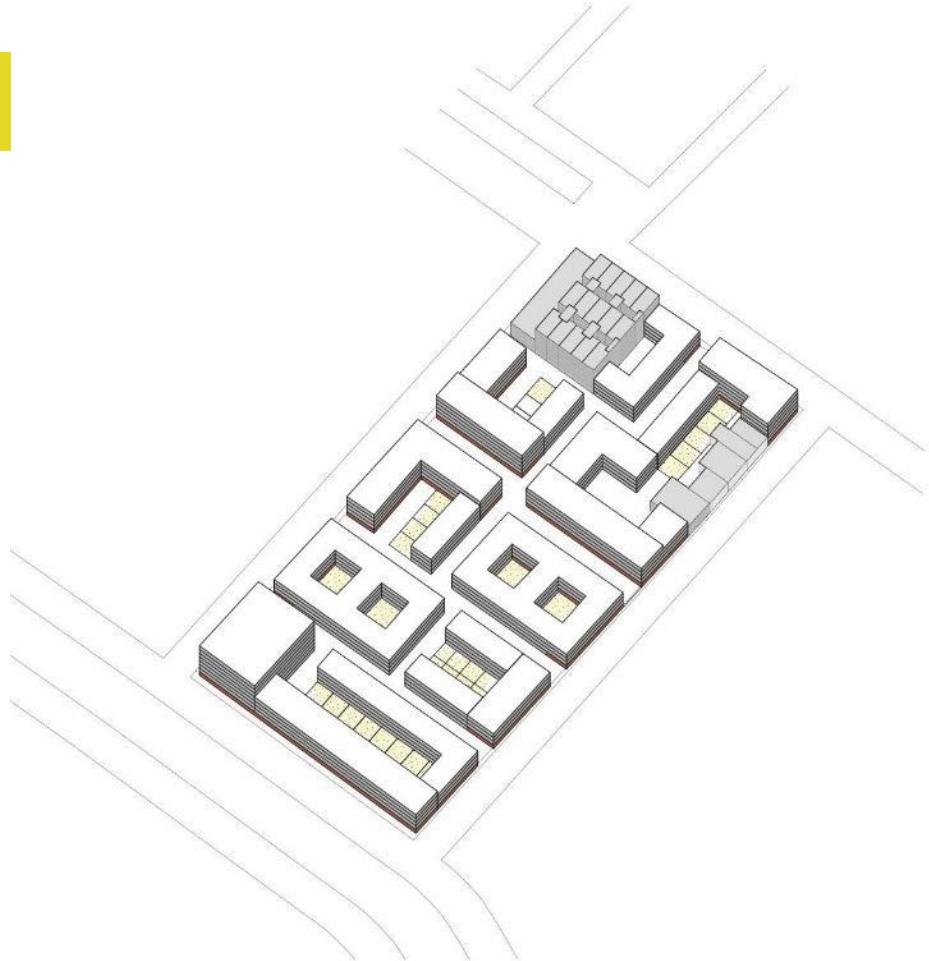




Designing for Affordability

Three tiers of potential development:

- **Tier 2**

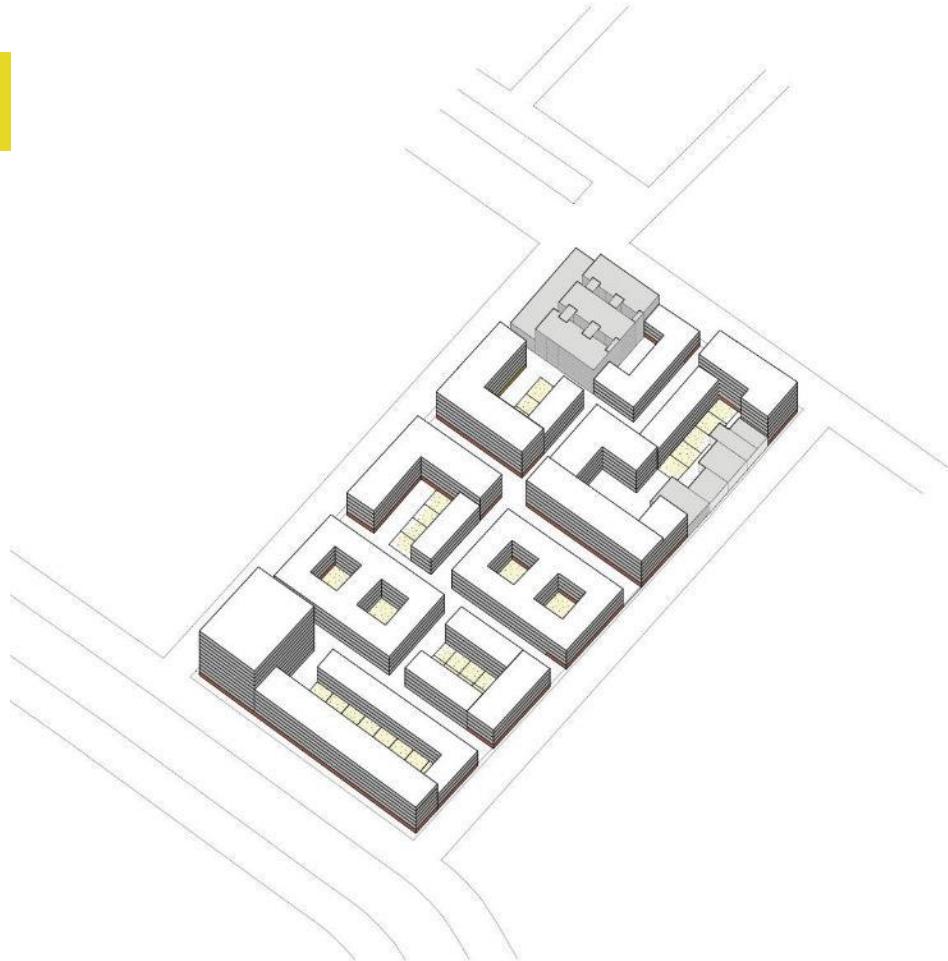




Designing for Affordability

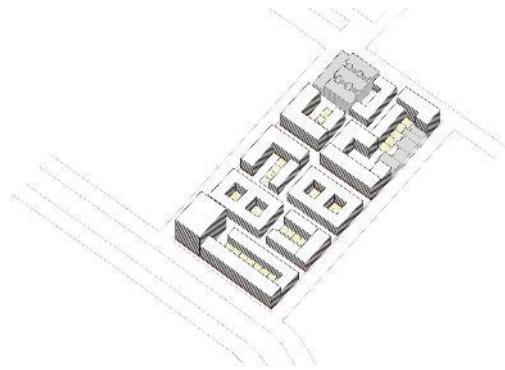
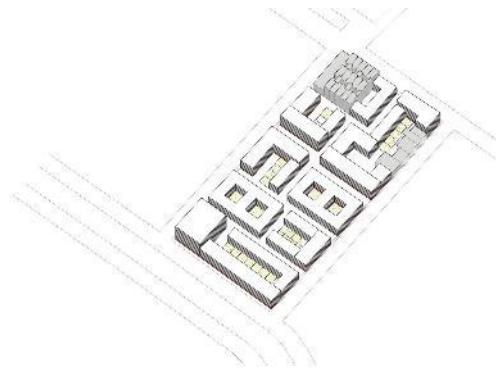
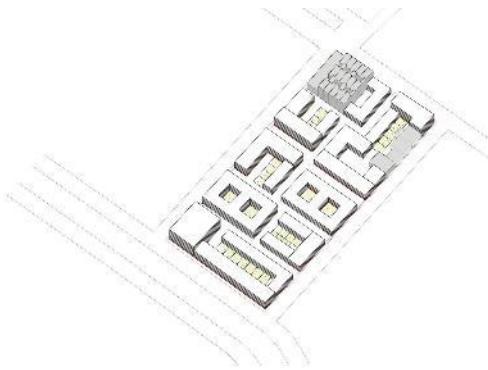
Three tiers of potential development:

- Tier 3





Designing for Affordability



BUSINESS AS USUAL

100% market rate
1.0 FAR

605 units
790 parking spaces
4 floors
Levered IRR: 32.8%

MODERATE

20% Affordable
1.2x FAR
50% parking requirement reduction

742 units
485 parking spaces
5 floors
Levered IRR: 33.8%

AMBITIOUS

40% Affordable
1.5 FAR
100% parking requirement reduction

947 units
0 parking spaces
6 floors
Levered IRR: 33.7%

Pro forma results: with increasing incentives, developers could build increasing levels of affordable housing, and earn similar returns to building market rate under current zoning conditions.

	BUSINESS AS USUAL	MODERATE	AMBITIOUS
<i>AFFORDABILITY</i>	<i>100% market rate</i>	<i>20% affordable</i>	<i>40% affordable</i>
<i>DENSITY BONUS</i>	<i>None (1.0 FAR)</i>	<i>1.2x FAR</i>	<i>1.5x FAR</i>
<i>PARKING REDUCTION</i>	<i>-</i>	<i>50%</i>	<i>100%</i>
Development program			
Total units	605	742	947
Parking ratio (spaces)	1.3 (790)	0.7 (485)	0 (0)
Total FAR	2.8	3.4	4.2
Floors	4	5	6
Cost breakdown			
Construction	39.5%	45.9%	55%
Parking	16.3%	9.6%	0%
Land	35.9%	34.8%	33.4%
Permitting and development fees	2.4%	2.8%	3.3%
Project feasibility			
Unleveraged IRR	17.6%	18.1%	18.1%
Leveraged IRR	32.8%	33.8%	33.7%

District-Wide Recommendations Summary

Through Plan Parcial, implement:

1. **Affordability requirements:** % affordable units that increases with incentives
1. **Clear incentive structure:** including density bonus, parking reduction, and permitting fees
1. **Neighborhood stability:** programs to help long time residents stay in place (incl. tax relief, vouchers)
1. **Design guidelines:** TOD features.
1. **Accessibility improvements:** Direct development fees towards connectivity enhancements



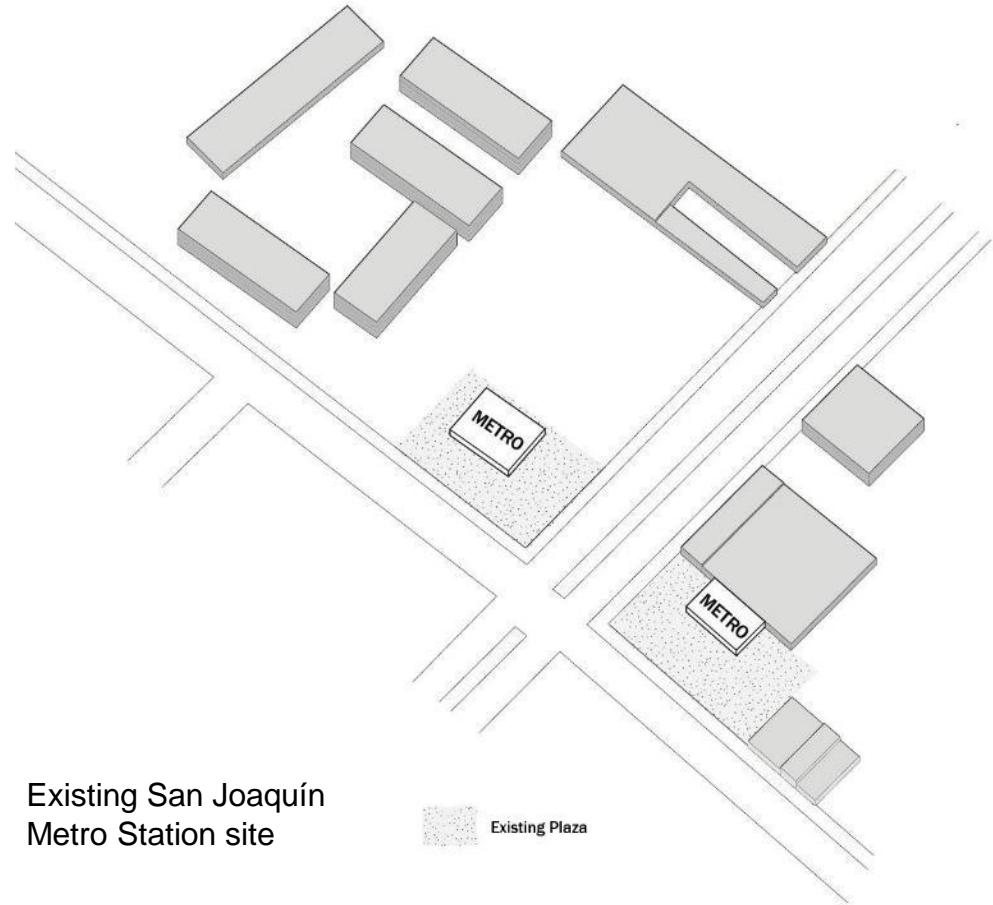
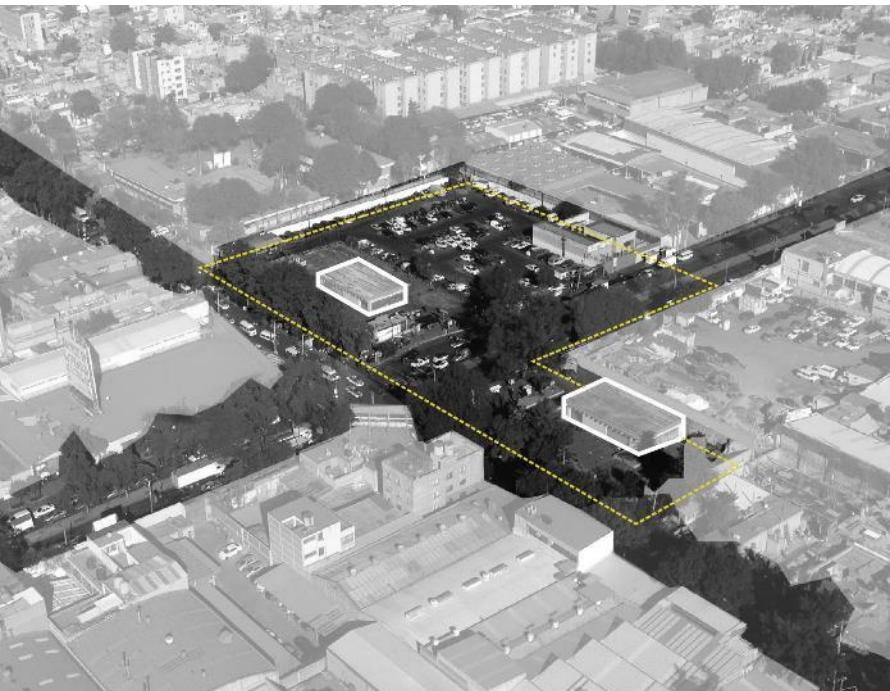
Station Area Redesign

- **Goal:** Leverage public land - the metro station area and adjacent auto impound lot - for improved access, design, and affordability, through:

- New “neighborhood CETRAM”
- Design
- Affordable housing
- Development incentives



Existing Station Conditions



Existing San Joaquín
Metro Station site



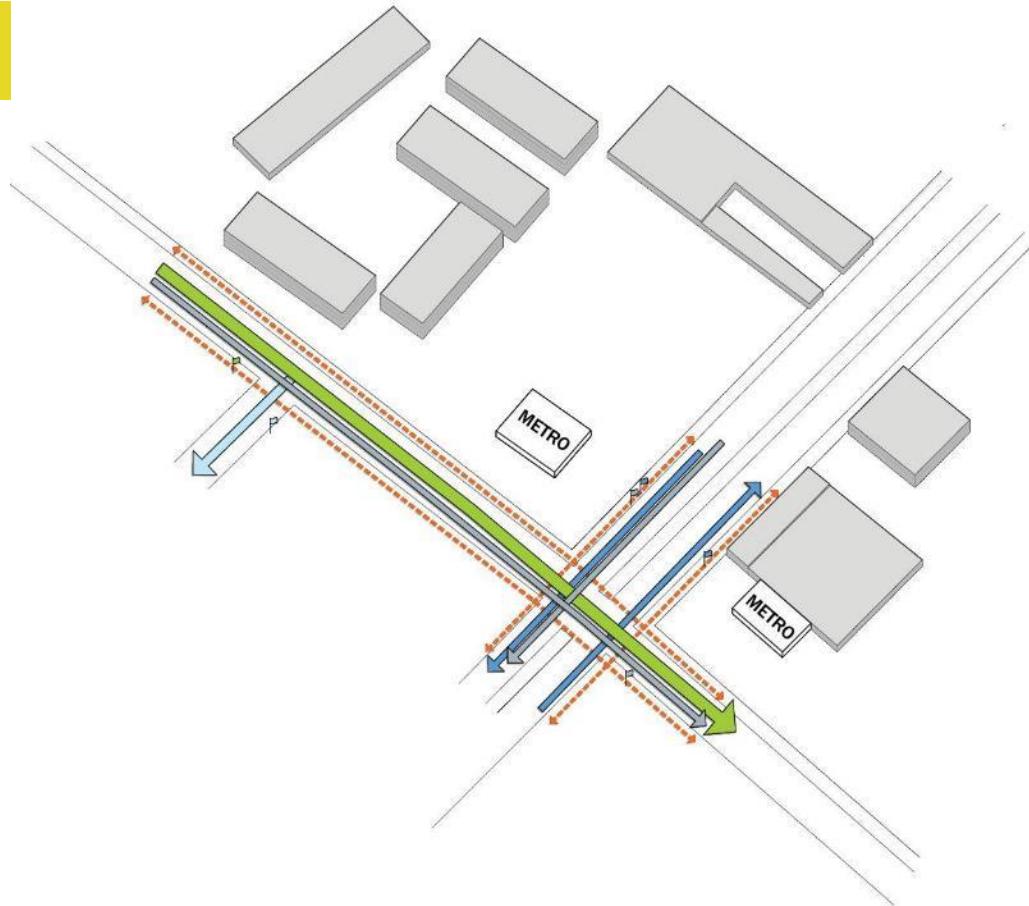
Existing Plaza



Station Area Circulation

Current circulation for the Station

- Widely distributed and disorganized transfer points
- Congestion in peak-hours
- Majority of streets dedicated to vehicles and transit loading
- Conflicts between modes

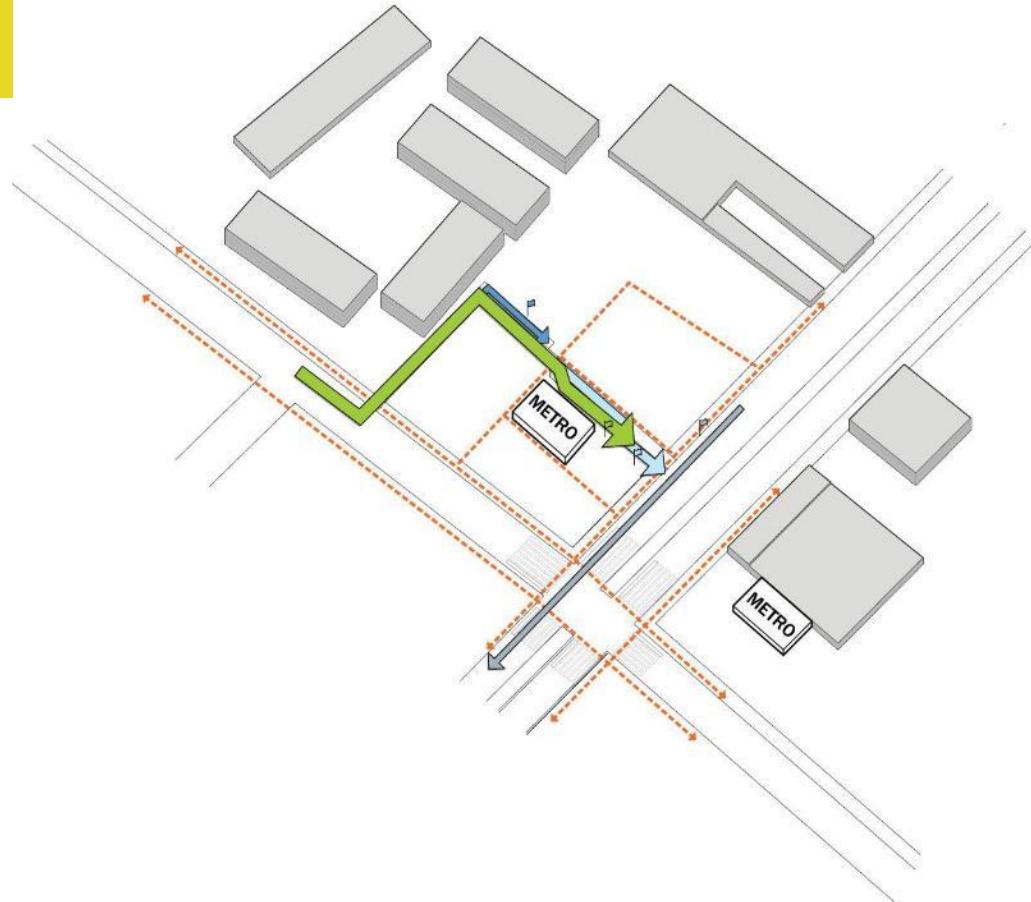




Station Area Circulation

New circulation concept for the Station

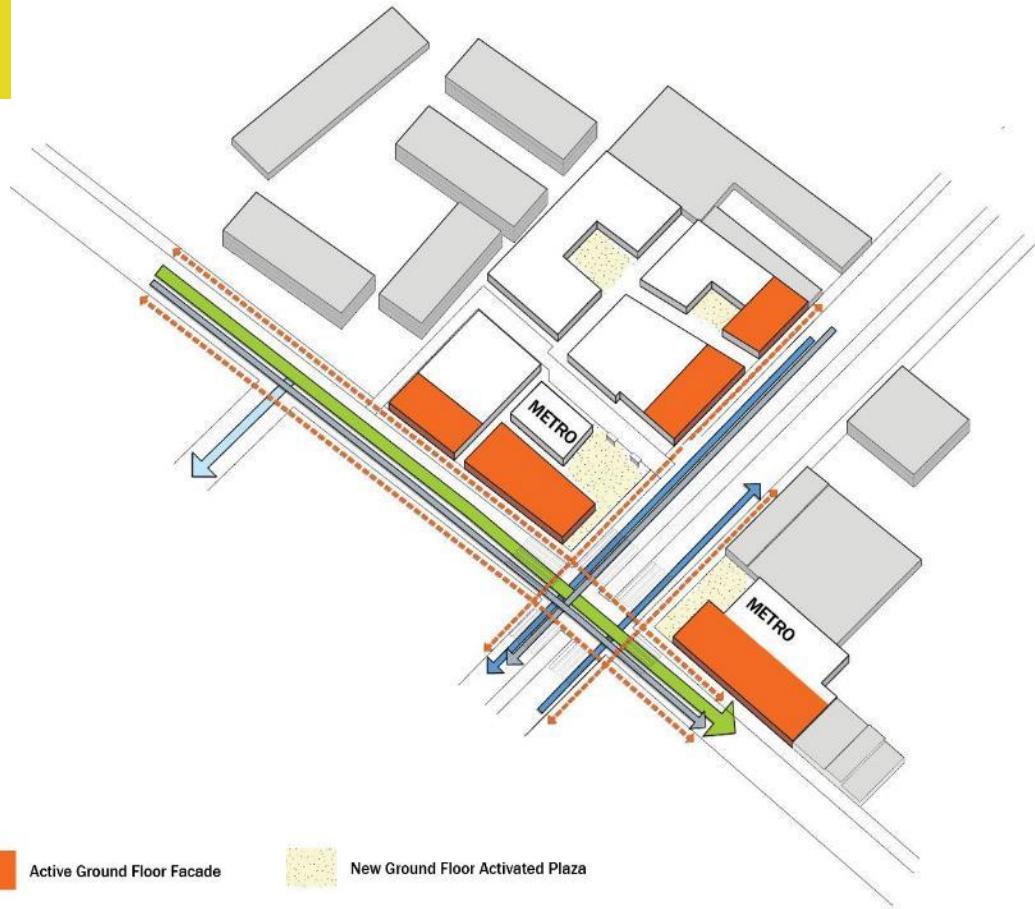
- Transfer points and circulation routes for non-Metro transit types are integrated on-site
- Gives back significant portions of the streetscape to the pedestrian.





Station Area Circulation

Available ground floor facade options with existing circulation pattern





Station Area Circulation

Available ground floor facade options with **NEW** circulation pattern

- New pedestrian and transit access on site increase opportunities for active ground floor uses and help infuse the vibrancy of the street within the development.



 Active Ground Floor Facade

 New Ground Floor Activated Plaza





Designing for Affordability

Three tiers of potential development:

- Tier 1





Designing for Affordability

Three tiers of potential development:

- **Tier 2**

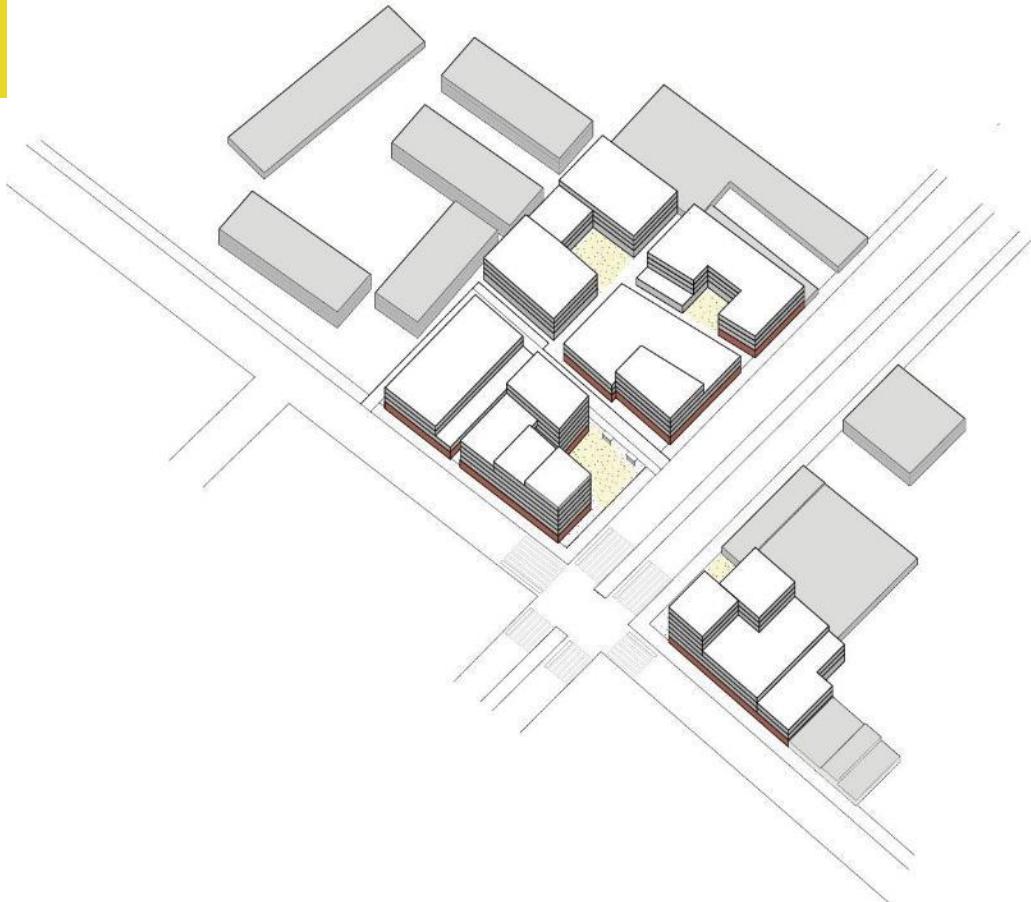




Designing for Affordability

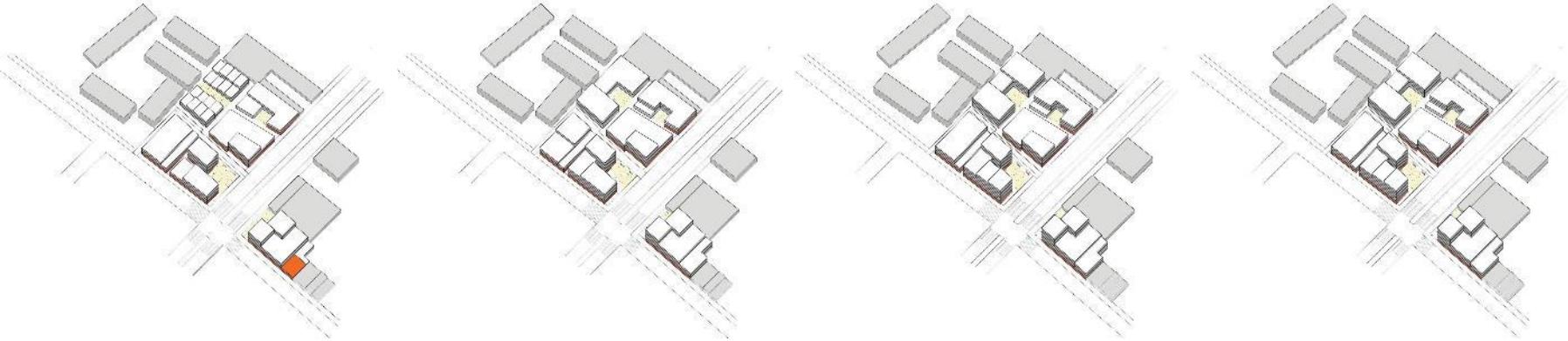
Three tiers of potential development:

- Tier 3





Designing for Affordability



1. BUSINESS AS USUAL	2. MODERATE	3. AMBITIOUS	4. FUND TRANSIT
<i>100% market rate</i> 1.0 FAR	<i>50% Affordable</i> 1.5 FAR <i>50% parking reduction</i> <i>50% Land subsidy</i>	<i>90% Affordable</i> 2.0 FAR <i>100% parking reduction</i> <i>100% Land subsidy</i>	<i>100% Market rate</i> 2.0 FAR <i>50% parking reduction</i> <i>100% Land subsidy</i>
273 units 357 parking spaces 2.8 FAR Levered IRR: 32.9%	428 units 280 parking spaces 4.2 FAR Levered IRR: 32.3%	583 units 0 parking spaces 5.6 FAR Levered IRR: 32.7%	583 units 381 parking spaces 5.6 FAR Levered IRR: 52.5%

Metro station area pro forma results

	1. BUSINESS AS USUAL	2. MODERATE	3. AMBITIOUS	4. FUND TRANSIT
<i>AFFORDABILITY</i>	<i>100% market rate</i>	<i>50% affordable</i>	<i>90% affordable</i>	<i>100% market rate</i>
<i>DENSITY BONUS</i>	<i>1.0x FAR</i>	<i>1.5x FAR</i>	<i>2.0x FAR</i>	<i>2.0x FAR</i>
<i>PARKING REDUCTION</i>		<i>50%</i>	<i>100%</i>	<i>50%</i>
<i>LAND SUBSIDY</i>		<i>50%</i>	<i>100%</i>	<i>100%</i>
Development program				
Total units	273	428	583	583
Parking ratio (spaces)	1.3 (357)	0.7 (280)	0 (0)	0.7 (381)
Total FAR	2.8	4.2	5.6	5.6
Floors	4	6	8	8
Cost breakdown				
Construction	39.6%	57.9%	82.6%	70.0%
Parking	16.2%	12.4%	0.0%	15.3%
Land	35.9%	17.5%	0.0%	0.0%
Development/impact fees - %	2.4%	3.5%	5.0%	4.2%
Project feasibility				
Profit	\$344,992,376	\$306,240,486	\$221,874,221	\$960,918,160
% Profit	90.1%	78.1%	60.6%	222.1%
Unleveraged IRR	17.6%	17.6%	18.0%	26.9%
Leveraged IRR	32.9%	32.3%	32.7%	52.5%

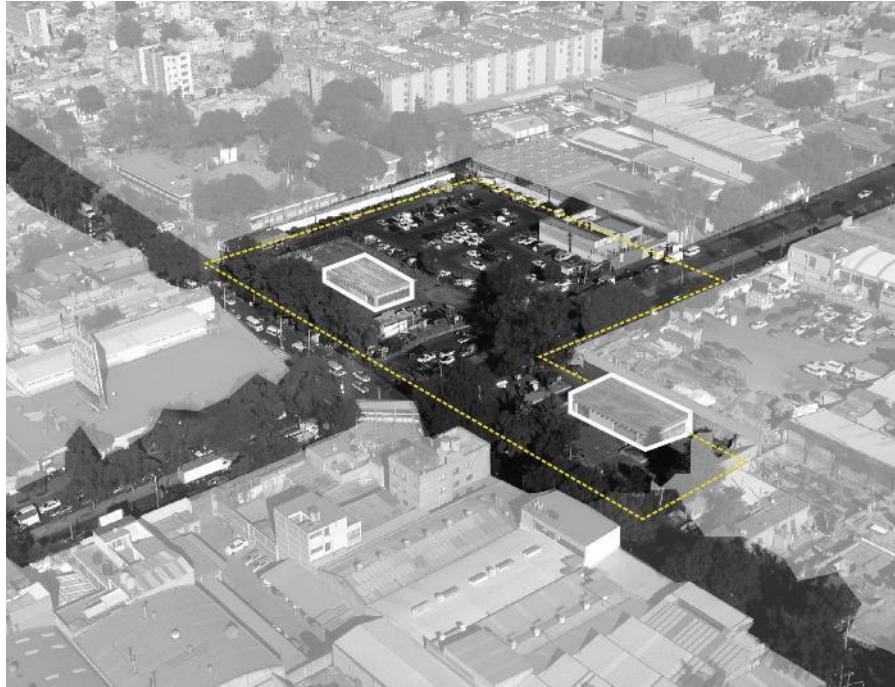
Station Area Recommendation Summary

1. Metro Station Area

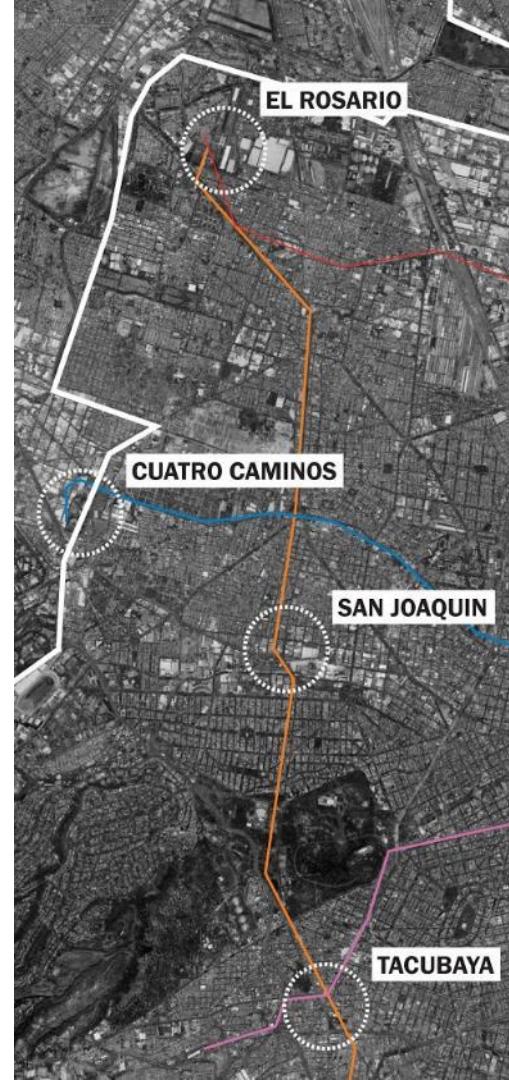
- a. Activate ground floor
- b. Facilitate last mile connections

1. Leverage Public Land

- a. In exchange for land subsidy and incentives, require over 75% affordable units



EL ROSARIO



El Rosario: Scorecard



Accessibility

- **Poor** accessibility score in non-motorized modes of transportation, with high variation.
- **Very good** for basic trip accessibility.
- **Poor** metropolitan accessibility, despite the station's importance as a regional transportation hub.



Design

- **Poor** in measures of legibility.
- **Poor** human-scale streetscape, with large blocks and buildings.

El Rosario Recommendations

 Affordability

Community Land Trusts (CLTs)

 Design

Wayfinding

 Accessibility

Microbus Technology Package

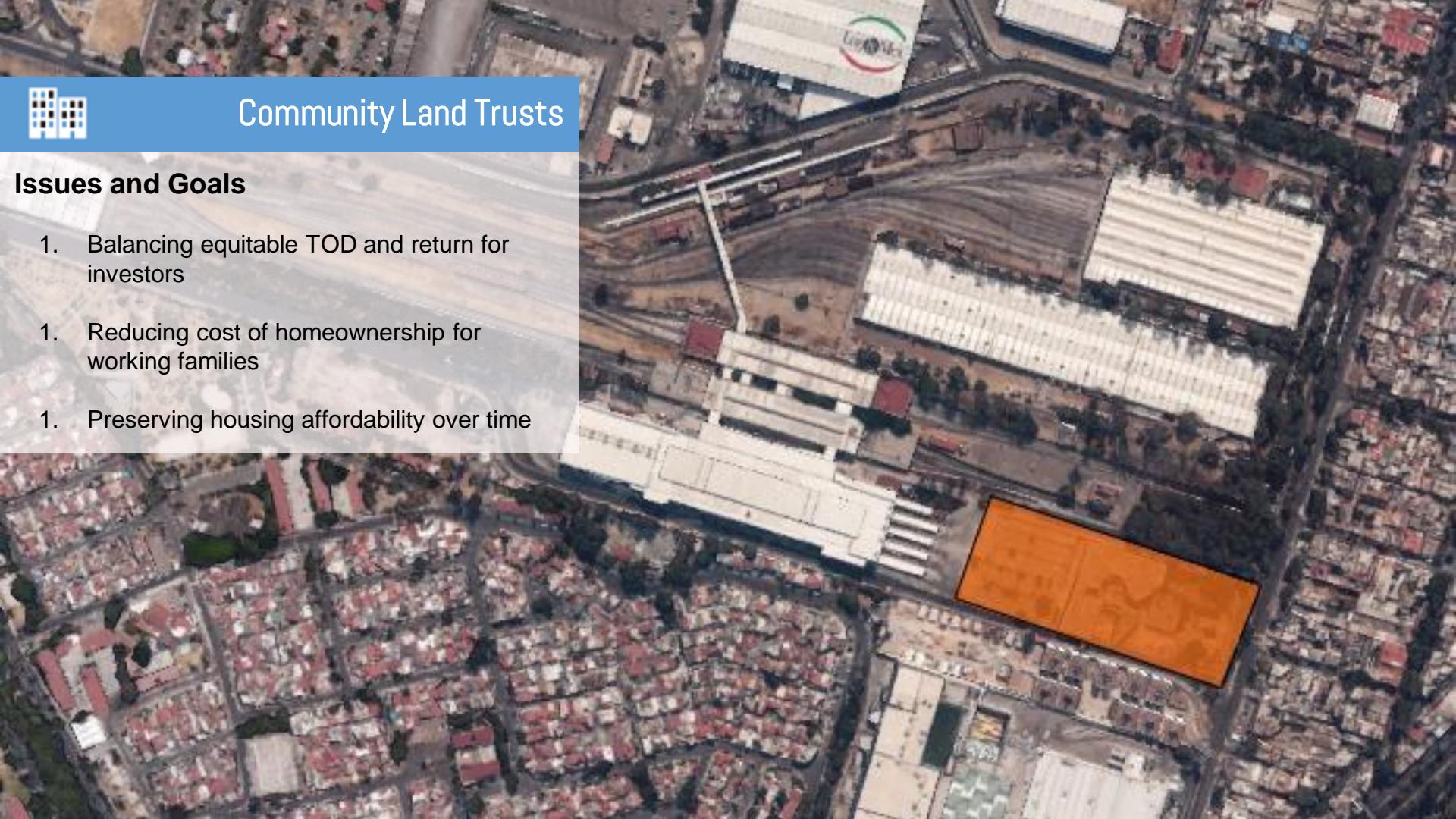




Community Land Trusts

Issues and Goals

1. Balancing equitable TOD and return for investors
1. Reducing cost of homeownership for working families
1. Preserving housing affordability over time





Community Land Trusts

PRO FORMA	BUSINESS AS USUAL	CLT DEVELOPMENT
AFFORDABILITY	100% MARKET RATE	50% DONATED TO CLT UNDER INCLUSIONARY ZONING
DENSITY BONUS	1.0x FAR	2.0x FAR
PARKING REDUCTION		50%
DEVELOPMENT FEE REDUCTION		50%
LAND SUBSIDY	100% land subsidy	100% land subsidy
Total units	379	757
Parking ratio (spaces)	1.3 (494)	0.7 (494.5)
Total FAR (floors)	2.8 (4)	5.6 (8)
Total sales revenue	\$347,343,750	\$601,945,677
Total development cost	\$312,207,414	\$526,903,069
Profit	\$35,136,336	\$75,042,608
% Profit (profit/total cost)	11.3%	14.2%



Wayfinding

Issues and Goals

1. Making the station area more legible and improving access
1. Improving circulation within the station
1. Tackling the last-mile problem



Prototype in the West End
A family of sign types
for walkers

Because of the density of destinations in London, a map-based system is the most appropriate and practical solution. It does away for the need to use many, many 'fingerposts' and in this context an alert the user to over 400 destinations. The Legible London

The 'walker'
All the signs are clearly identified by a yellow strip at the top and a 'walker' – the universal symbol for travelling by foot. They stand above head height so that they are clearly visible from a distance.

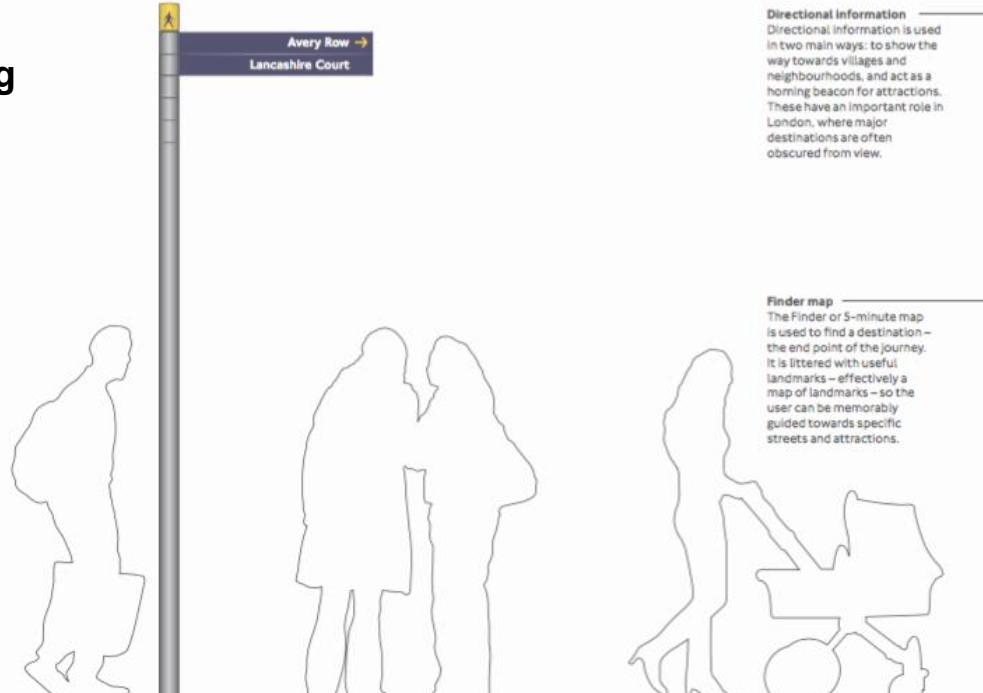
Wayfinding

Design-specific proposal: Wayfinding

Examples

London: Legible London

- Progressive disclosure
- Mental mapping



New York City: WalkNYC

- "Heads-up" maps
- Integration with other modes

Directional information
Directional information is used in two main ways: to show the way towards villages and neighbourhoods, and act as a homing beacon for attractions. These have an important role in London, where major destinations are often obscured from view.

Finder map
The Finder or 5-minute map is used to find a destination – the end point of the journey. It is littered with useful landmarks – effectively a map of landmarks – so the user can be memorably guided towards specific streets and attractions.





Wayfinding

Recommendation

1. Use the existing visual language of the Metro system to create a wayfinding program
1. Propose El Rosario area implementation as a pilot project
1. Funding: use the financial benefit of increasing station access to fund pilot design and implementation, or use advertising





Wayfinding

Implementation Challenges

1. Public-private coordination
1. Interagency coordination (e.g. SEMOVI, Authority for Public Space)
1. Expanding beyond a pilot project





Microbus Tech Package

Develop policy and public/private partnership to facilitate the use of El Rosario as a laboratory for new technology to improve the operations and user experience of microbuses.

1. GPS/Vehicle Location

- a. Inefficient use of platform space → poor air quality, delays, unreliable arrival/departure times
- b. Difficult to enforce standards for safe driving/route adherence
- c. Lack of data collection/coordination across the Rutas that serve a CETRAM

1. Fare Payment

- a. Microbus riders are dissatisfied by unsafe vehicles and driving, poor/unreliable service, BUT captive by the low fare
- b. Daily “Micro-negotiations” of individual fare purchases → riders have no negotiating power with microbus operators





Microbus Tech Package

GPS/Vehicle Location

Action:

1. Work with operators to install GPS devices to provide real-time vehicle location data

Opportunities:

1. Performance reports to microbus operators for their routes
2. Efficient, real-time allocation of platform space
3. User-focused arrival time estimates



Friendship Heights Bus Bays			
N2	Eastbound to Farragut Square	2	21
E4	Eastbound to Riggs Park	3	35
36	Eastbound to Naylor Rd Station	7	37
N4	Eastbound to Farragut Square	8	38
L8	Northbound to Aspen Hill	8	33
E2	Eastbound to Ivy City	21	MINUTES
T2	Northbound to Rockville Station	23	MINUTES
32	Eastbound to Southern Ave Station	25	MINUTES
31	Southbound to Foggy Bottom Station	46	MINUTES

Image Sources: TransitScreen and The JBG Corporation



Microbus Tech Package

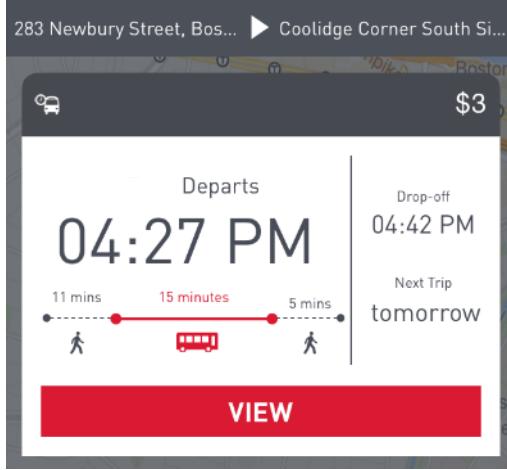
Fare Payment

Action:

1. Develop mobile platform for fare payment on microbuses serving El Rosario

Opportunities:

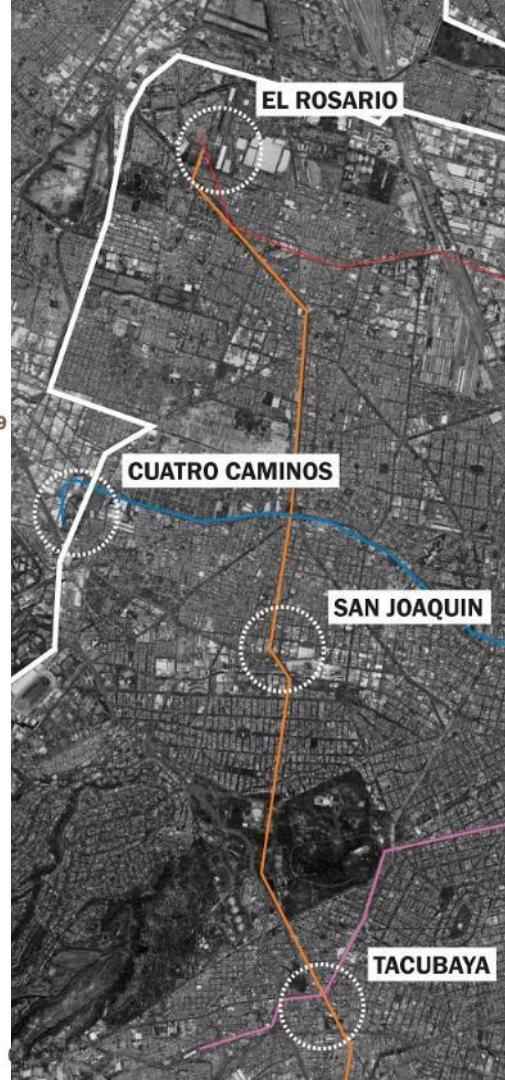
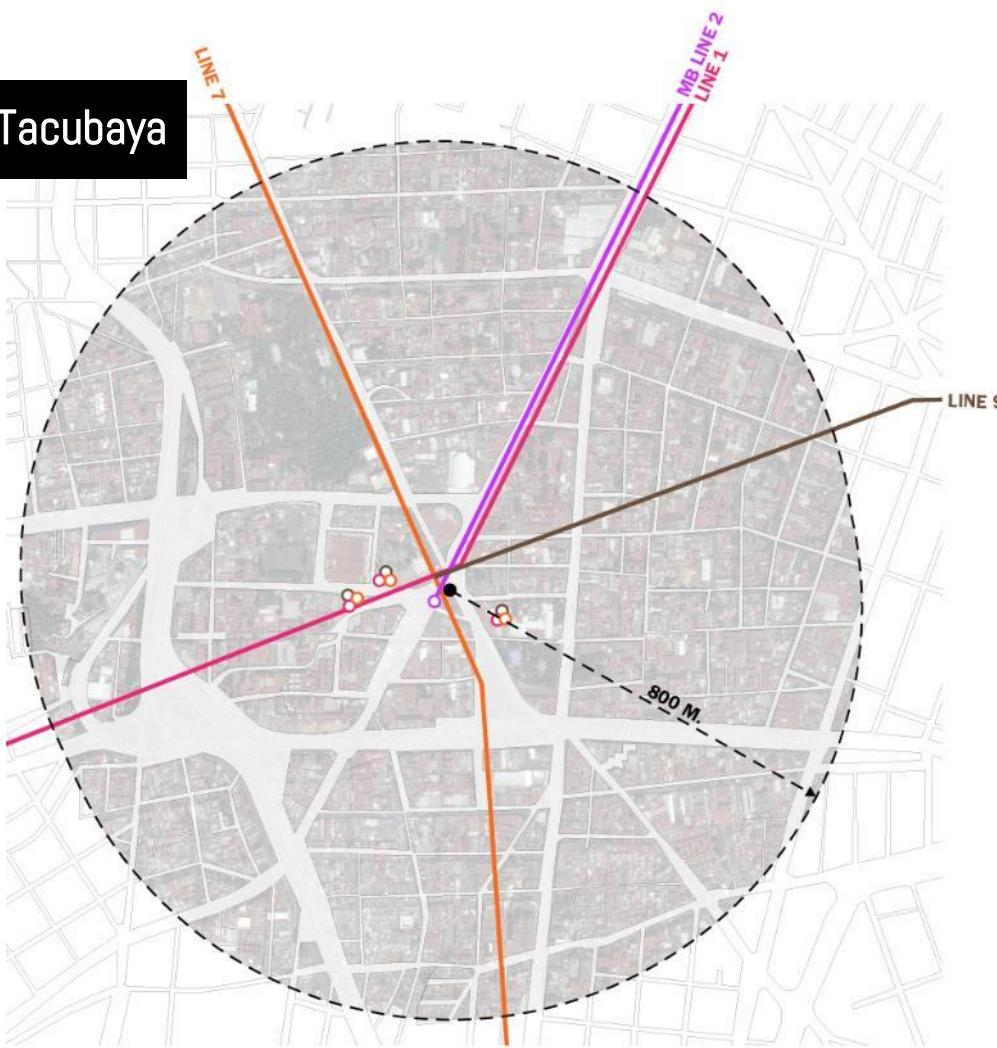
1. Station operators purchase microbus fares in bulk to be disbursed via mobile app → Creates market power for negotiating with microbus operators
2. Use mobile fare app to facilitate “enhanced” microbus service (reserved seats, WiFi)



TACUBAYA



Tacubaya



Tacubaya: Scorecard



Accessibility

- **Poor** non-motorized local accessibility
- **Good** metropolitan accessibility, but **poor** intermodal transfers



Affordability

- **Good** affordability, but **poor** socioeconomic status.



Informality

- **Poor** provision of services for vendors.
- **Very good** for basic trips accessibility.



Design

- **Poor** in measures of legibility.
- **Good** human-scale streetscape, but **poor** pedestrian infrastructure.

Tacubaya Recommendations

Affordability

Maintain neighborhood affordability

Design

Construct a **CETRAM**

Accessibility

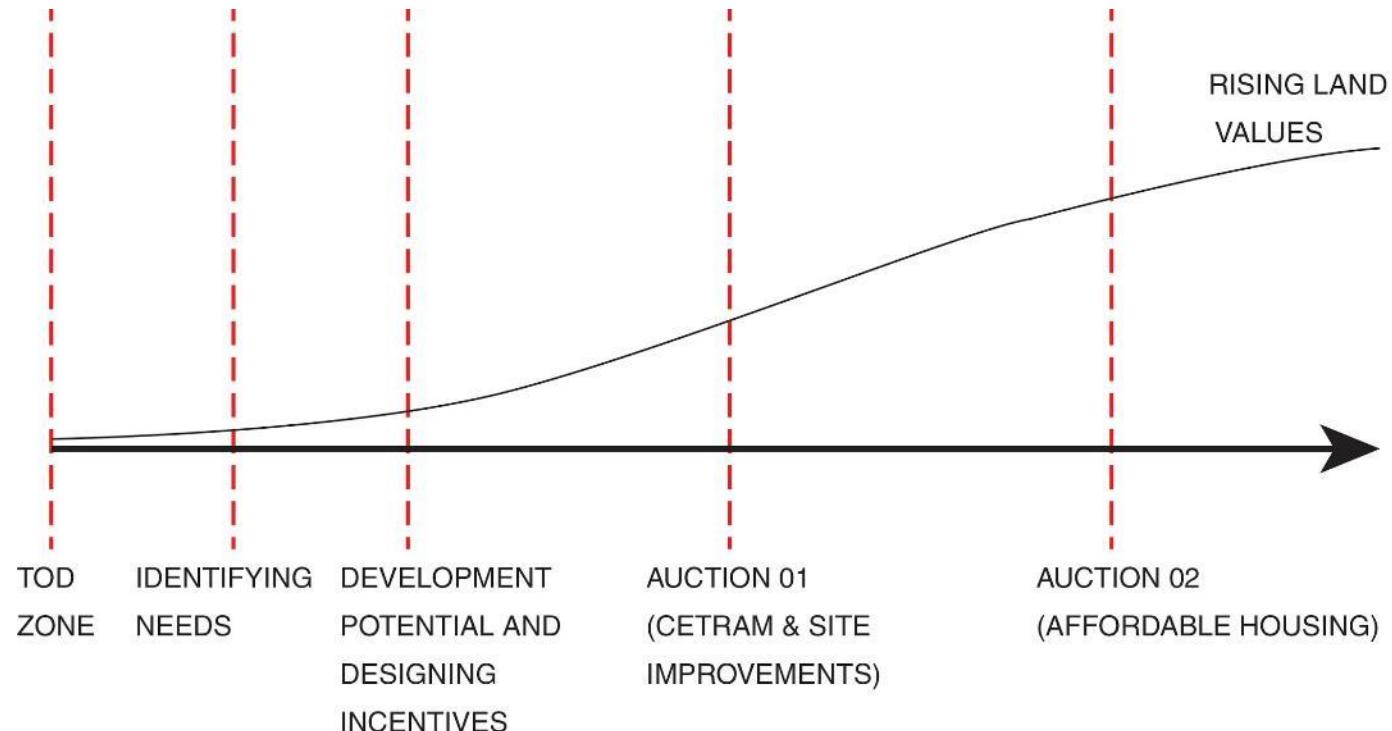
Improve pedestrian **connectivity**

Informality

Integrate **vendors** into neighborhood planning



Operationalizing TOD Zone Policy



TOD Zone

Bringing SAC and Partial Plan under the framework of TOD ZONE

Preparan rescate de Tacubaya

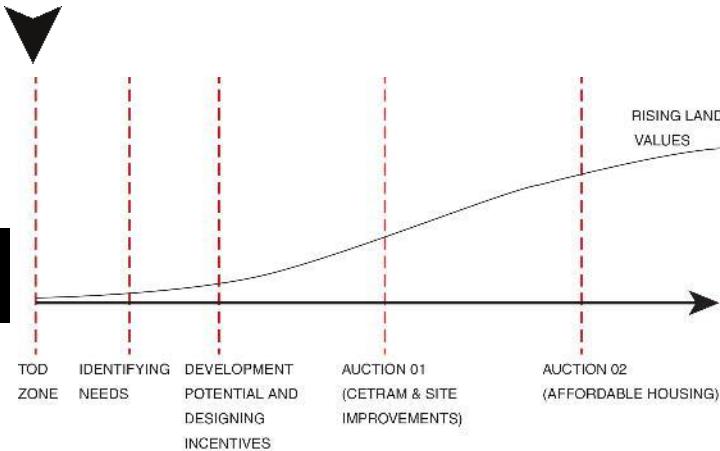
Alberto Acosta

Cd. de México, México (29 febrero 2016).- El

Gobierno capitalino prepara el terreno para rescatar la zona de Tacubaya, a través del Sistema de Actuación por Cooperación (SAC), con el cual participarán diversas dependencias y la iniciativa privada.

El denominado SAC Tacubaya se aplicará en el polígono que comprenden General Sóstvenes Rocha, entre Periférico y Parque Lira; Vicente Eguía, de Benjamín Franklin al cruce con Patriotismo; Viaducto Miguel Alemán, entre Patriotismo y Revolución, y Periférico con Sóstvenes Rocha.

Entre los objetivos del rescate están proyectos y obras para reordenar el espacio público, incluyendo vialidades, a partir de un modelo incluyente y equitativo para todos los actores involucrados.



Assessing Priorities



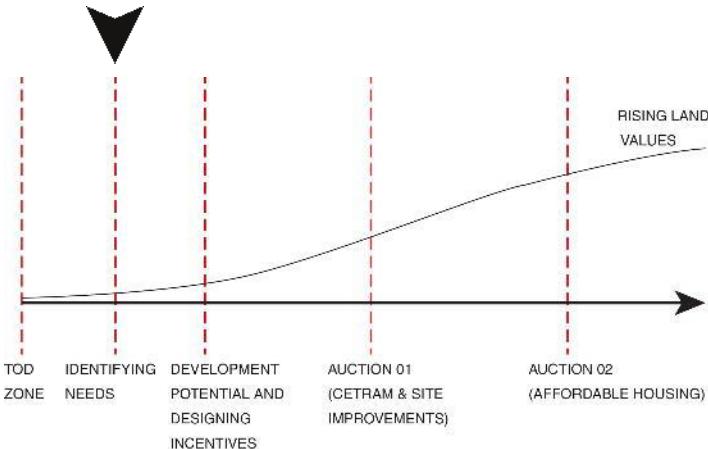
Centralize buses and reduce congestion



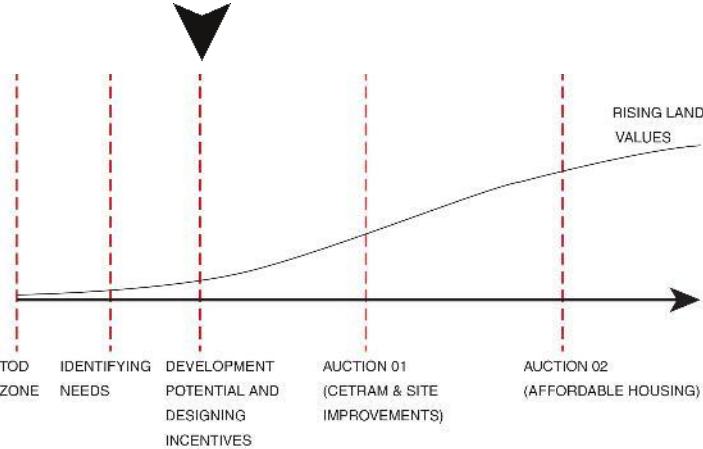
Implement short-term, quick win projects



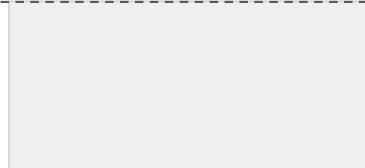
Land Value capture and Inclusionary Zoning



Development Potential and Incentivizing Private Investment



Potential Dev. Rights



Auction 01

Integrating Bus Station and reducing congestion
Implementing short-term, quick win projects

Current allowed Dev. Rights



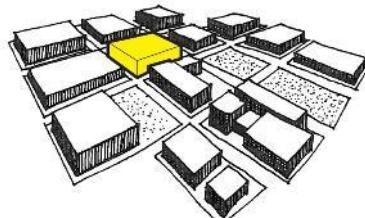
Auction 02

Affordable housing

Current built Dev. Rights



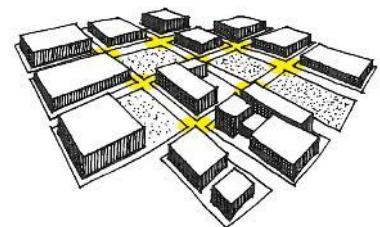
Auction 01



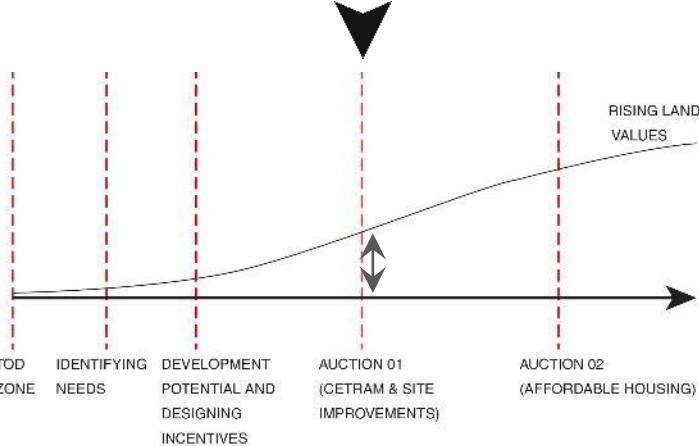
Bus Station



Reduce Congestion
and build a bus station



Quick Win Projects





Reduce Congestion





Build a Bus Station





Reorganize Traffic Patterns



Incorporating Vendors into Newly Constructed Bus Station

- Service to passengers
- Maintain economic diversity
- Optimal location for business





Quick Win Projects

- Wayfinding
- Service provision
- Immediate pedestrian environment improvements
- Park beautification



Beacon
Locator

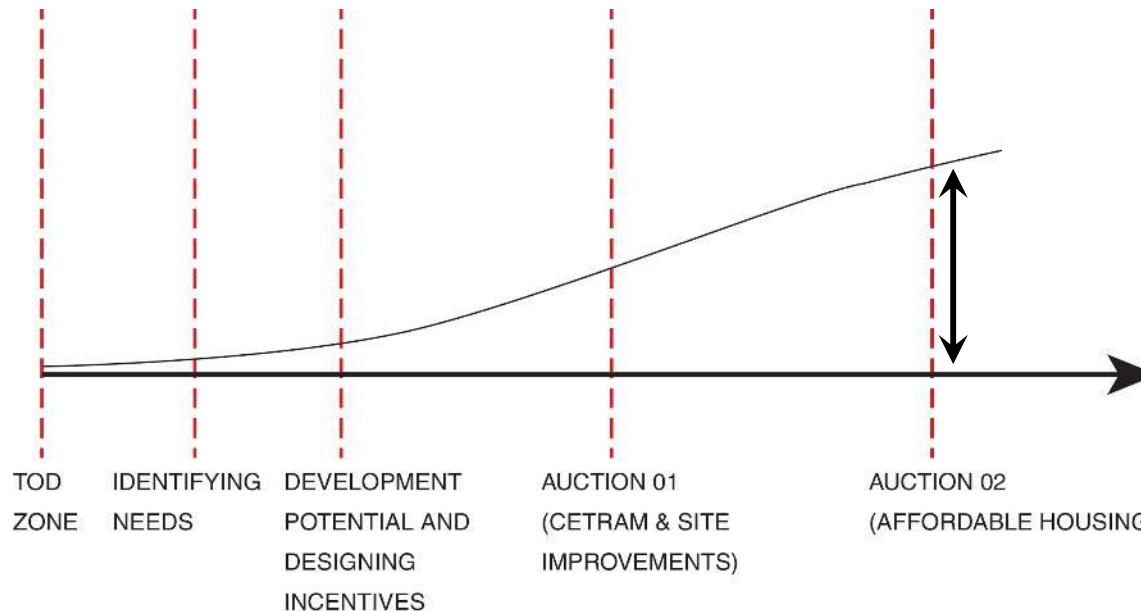
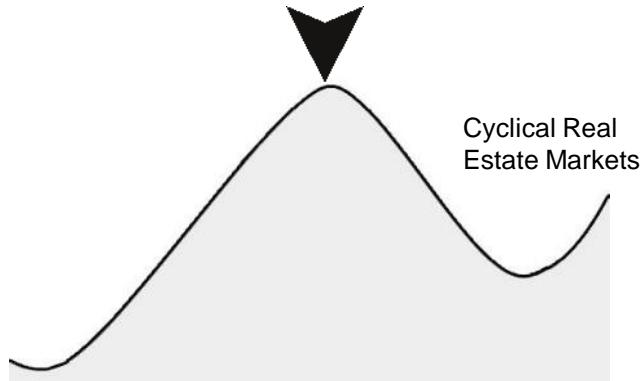
Directional

Focus map

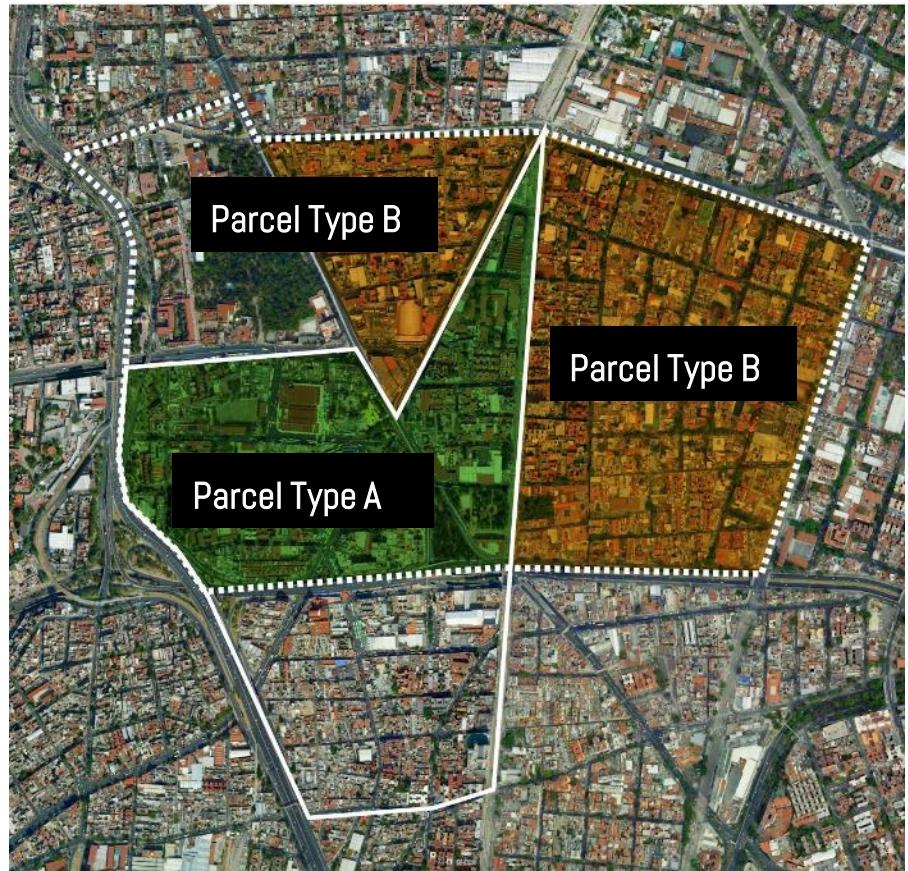
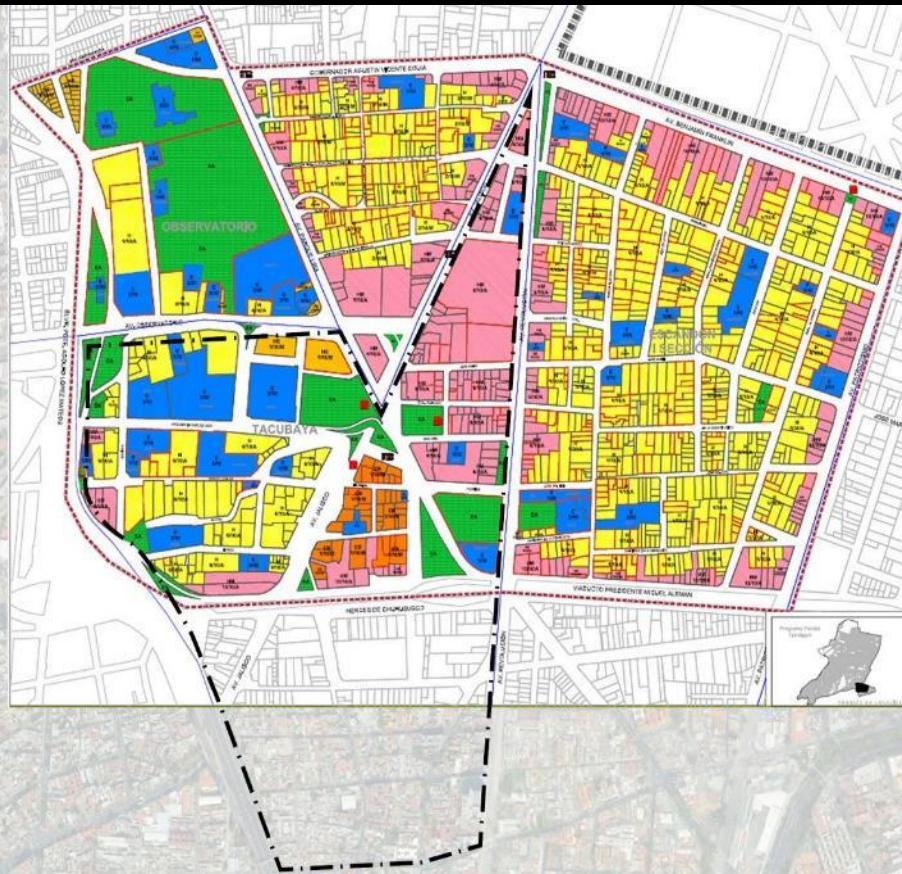
Overview map

Auction 02

Auctioning Development Rights at the optimal time to generate maximum revenues



Auction 02: Development Right Bonds



Auction 02: Development Right Bonds

Development Right Bonds Type A

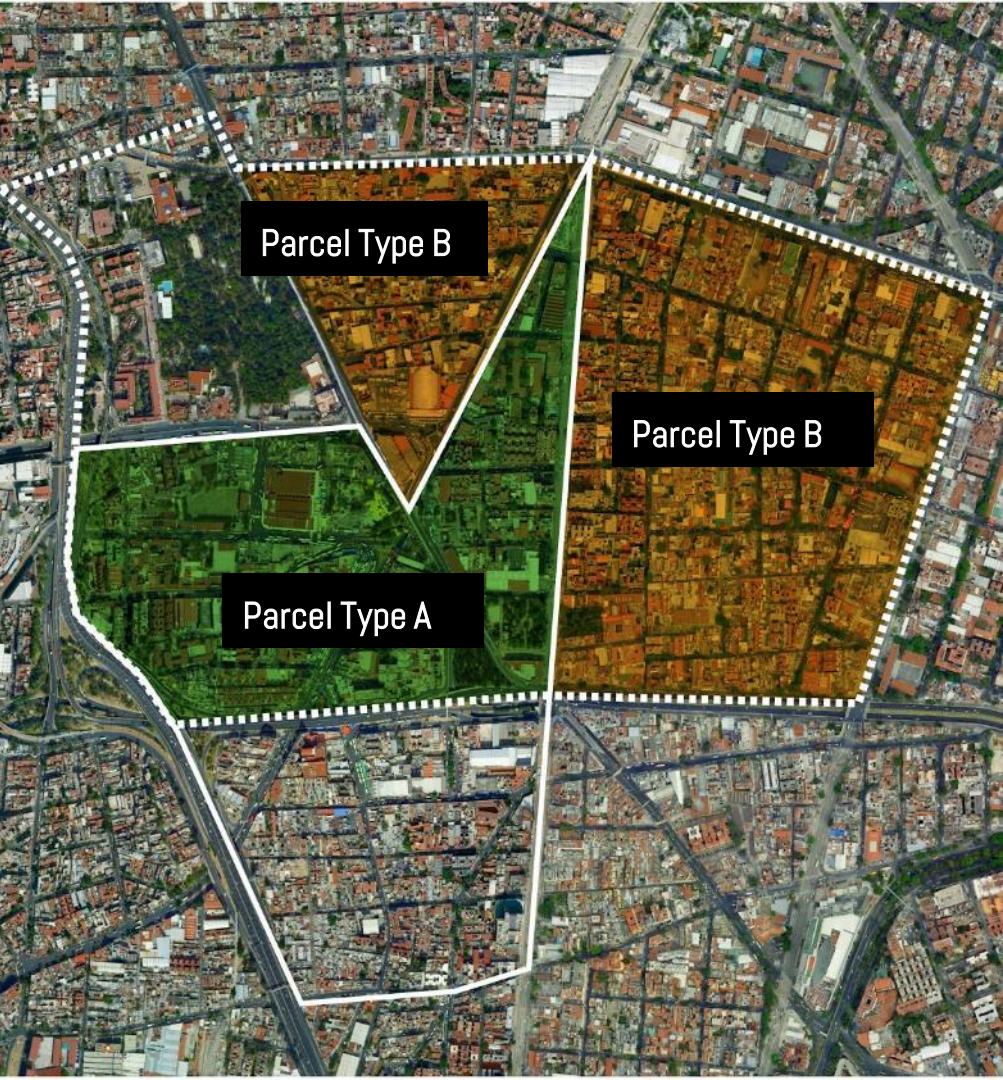
(Face value 100,000 Pesos)

- Tacubaya TOD ZONE
- Parcel A
- 10 square meters

Development Right Bonds Type B

(Face value 100,000 Pesos)

- Tacubaya TOD ZONE
- Parcel B
- 25 square meters

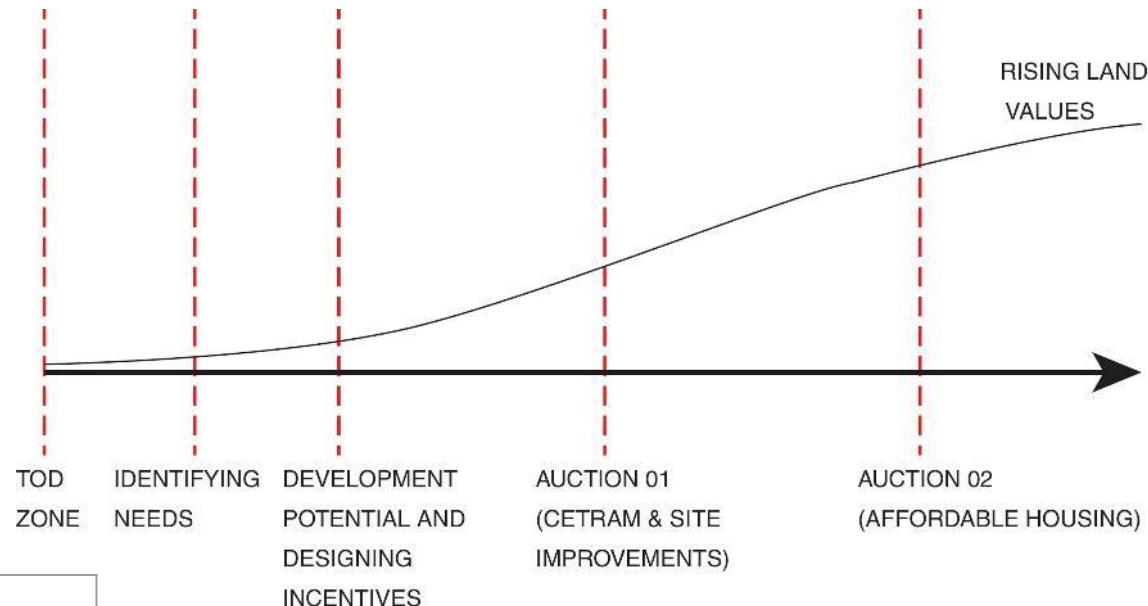


Integrating Inclusionary Zoning in the Bonds

Development Right Bonds Type A
(Face value 100,000 Pesos)

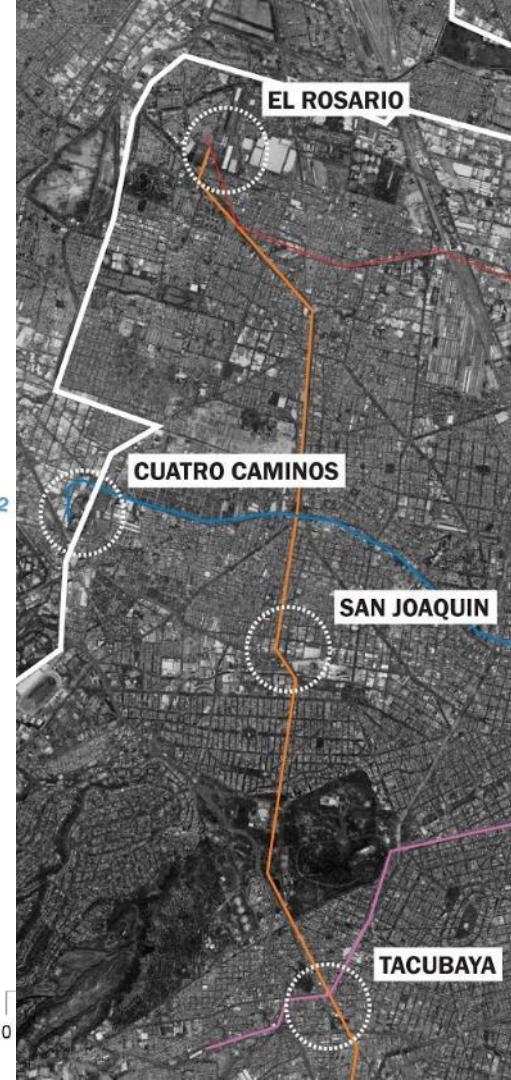
- TOD ZONE
- Parcel within TOD Zone where it can be used
- 10 square meters

25% of the area (10 square meters) to be used for affordable housing



Area associated with each Bond Type A	Total Number of Bonds	Total Construction area	Total Affordable housing
10 SQ. M	1000	10,000 SQ.M	2,500 SQ.M

CUATRO CAMINOS



Cuatro Caminos: Scorecard



Accessibility

- **Poor** accessibility score in neighborhood connectivity.
- **Very poor** non-motorized environment
- **Good** metropolitan connectivity because of the metro line and all the transfer points.



Design

- **Very Poor** score in human-scale block dimensions and pedestrian oriented streetscape
- **Very Poor** in density of intersections and legibility



Informality

- **Very Poor** score in protected vending locations
- **Very Good** access to foot traffic

Cuatro Caminos Recommendations



Accessibility



Design

Improve neighborhood **connectivity**



Informality

Integrate **informality**



Site and Neighborhood Improvements

Connectivity

+

Informality

=

Interconnected public space around the station and nearby

New Streets

Square / Marketplace

Commercial Corridor

Wider sidewalks

Daily use retail

Site improvements

Neighborhood improvements



Neighborhood Connectivity

Improve neighborhood connectivity to improve the walkability of the area.

Goals:

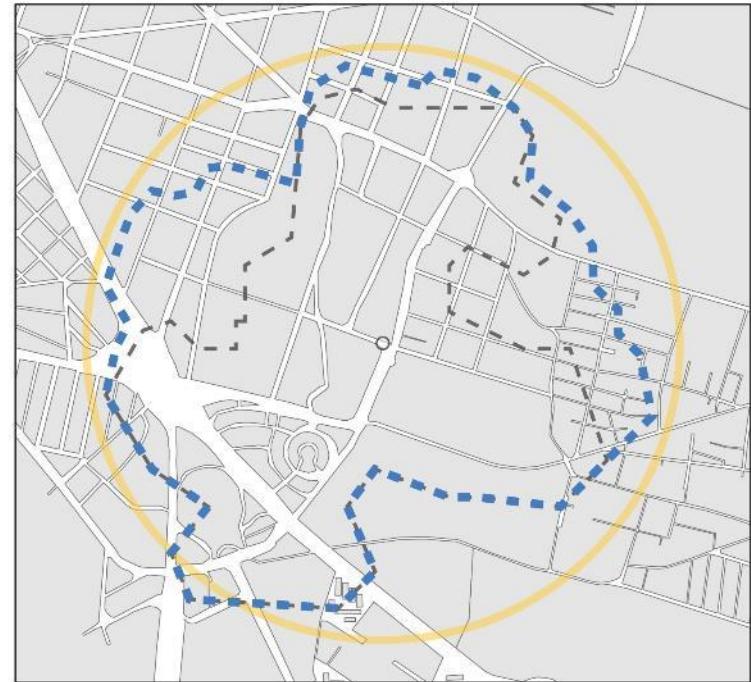
- **Divide big block in smaller ones** that follow the metric for the ideal perimeter length (approximately 600 m and, at most, 750 m)
 1. Dividing the CETRAM and adjacent large blocks
 2. Expanding the new urban fabric to the neighborhood for new development to happen in the industrial parcels.
- Make **public right of ways** through the neighboring cemeteries*
- Create a **pedestrian path** through the military facility*



Neighborhood Connectivity



Current Conditions



Expanded Street Network



Assembly Row Example

Facilitates pedestrian-friendly, **active ground floor retail**



ASSEMBLY ROW

Somerville, MA
GLA 401,000 SF

Federal Realty
INVESTMENT TRUST



Features **small blocks** that facilitate foot traffic but allow cars and freight when required

1000 Rockville Street, Rockville, MD 20852 | PH 301.996.8100 | FX 800.658.8980 | www.federalrealty.com
1000 Somerville, MA 02145 | PH 617.684.1500 | FX 617.623.3601

The parties acknowledge that this Plan is for identification purposes only and does not constitute any covenant, representation, or warranty by Landlord that any existing or future conditions shown exists, or that, if they do exist, will continue to exist through out all or any part of the Lease term, except to the extent such covenant, representation or warranty is expressly set forth in the Lease.



Connectivity - How?

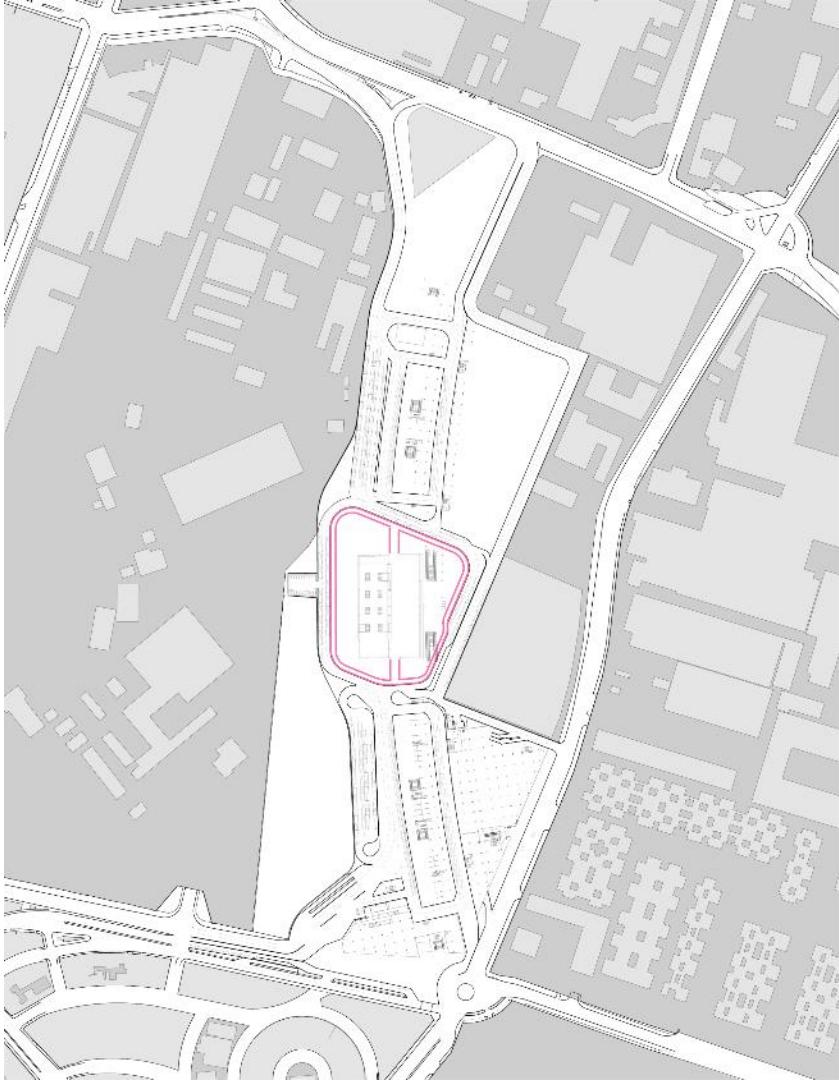
Step	Action Required	Data Required
1	Create a street network first-draft based on visual inspection in the immediate area from the subway station and CETRAM, aiming for all new streets to follow and connect with surrounding existing ones and following the block perimeter metric	<ul style="list-style-type: none">On-the-ground observationAerial map inspection
2	Examine the existing land use and parcel ownership as part of a viability study and initiate community outreach	<ul style="list-style-type: none">Land-use map; parcel map; land ownership
3	Revise the proposed street network	
4	Develop a set of stakeholders based on the the viability study and revised proposal	<ul style="list-style-type: none">Land ownership
5	“Open” gated streets in the surrounding neighborhood.	<ul style="list-style-type: none">Open/closed street status



Connectivity Around the Station

Current Project

- Metro Station trapped in a big inner-block
- Microbuses and vans traffic looping around the Station Block
- No easy access for pedestrians directly to the station and to the second stage of the CETRAM project

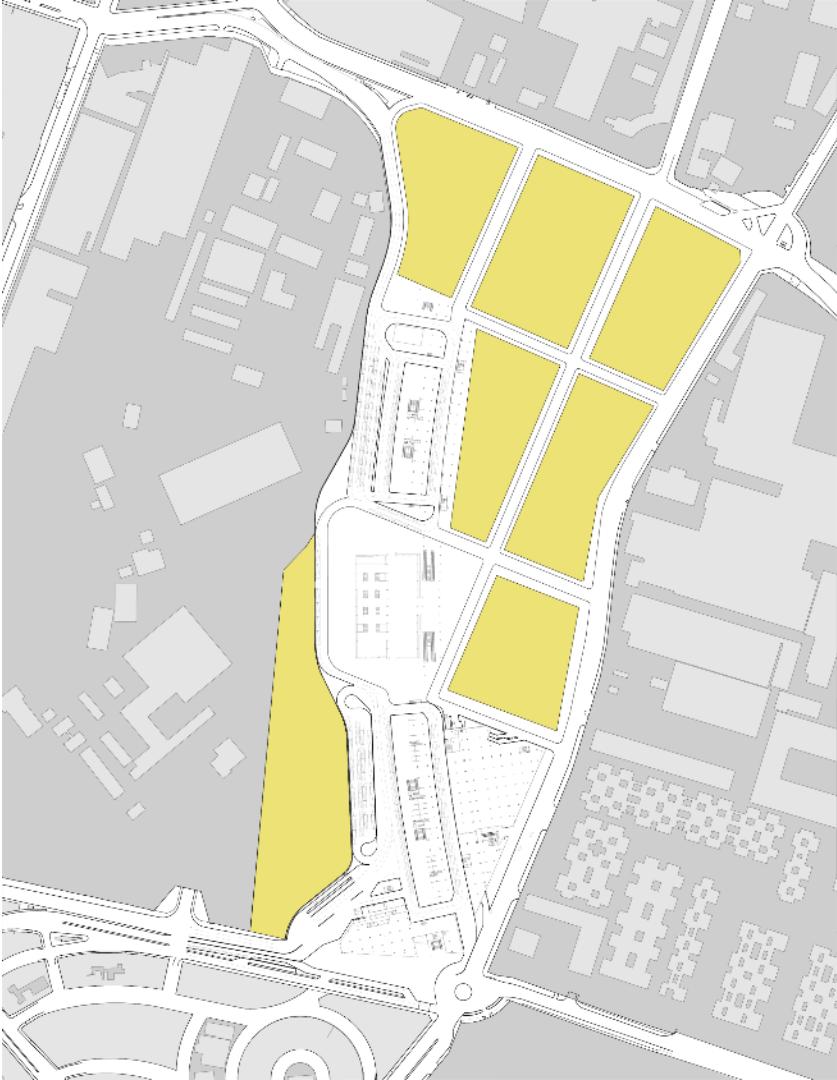




Connectivity Around the Station

Recommendations

- Open new streets through the adjacent large block in order to ease access for pedestrians
- Move the buses traffic to the back side of the CETRAM to free the area in the front and create new public space





Commercial Corridor

Recommendations

- Provide a connection to Toreo Parque Central
- Facilitate trip options for day-to-day needs



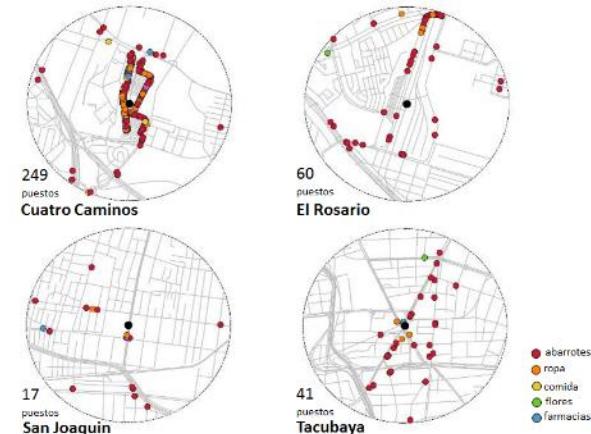


Challenge: How can informal street vendors be incorporated into CETRAM redevelopments?

Objectives

1. Improve the quality of life, security and income mobility of street vendors
2. Increase the vibrancy, efficiency, and safety of Mexico City's public spaces
3. Create an environment that attracts shoppers to the retail center

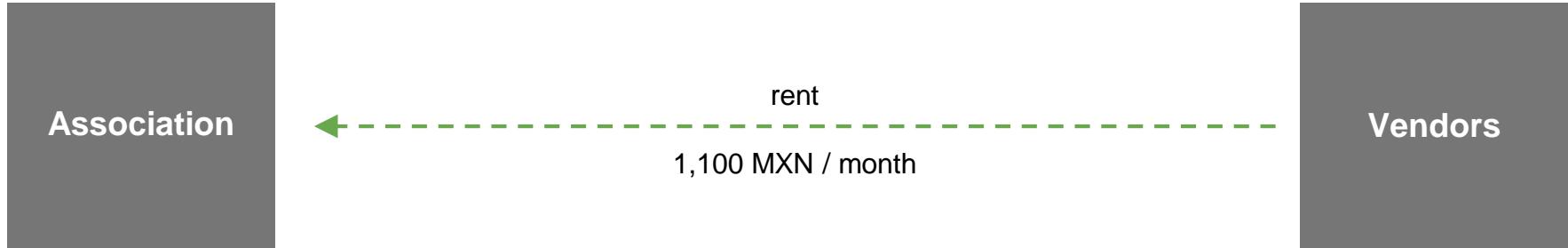
Why Cuatro Caminos



Solution: We suggest a coordinated **public-private** effort that provides incentives to developers of CETRAMS to create *opportunities* for existing street vendors



Flow of Capital



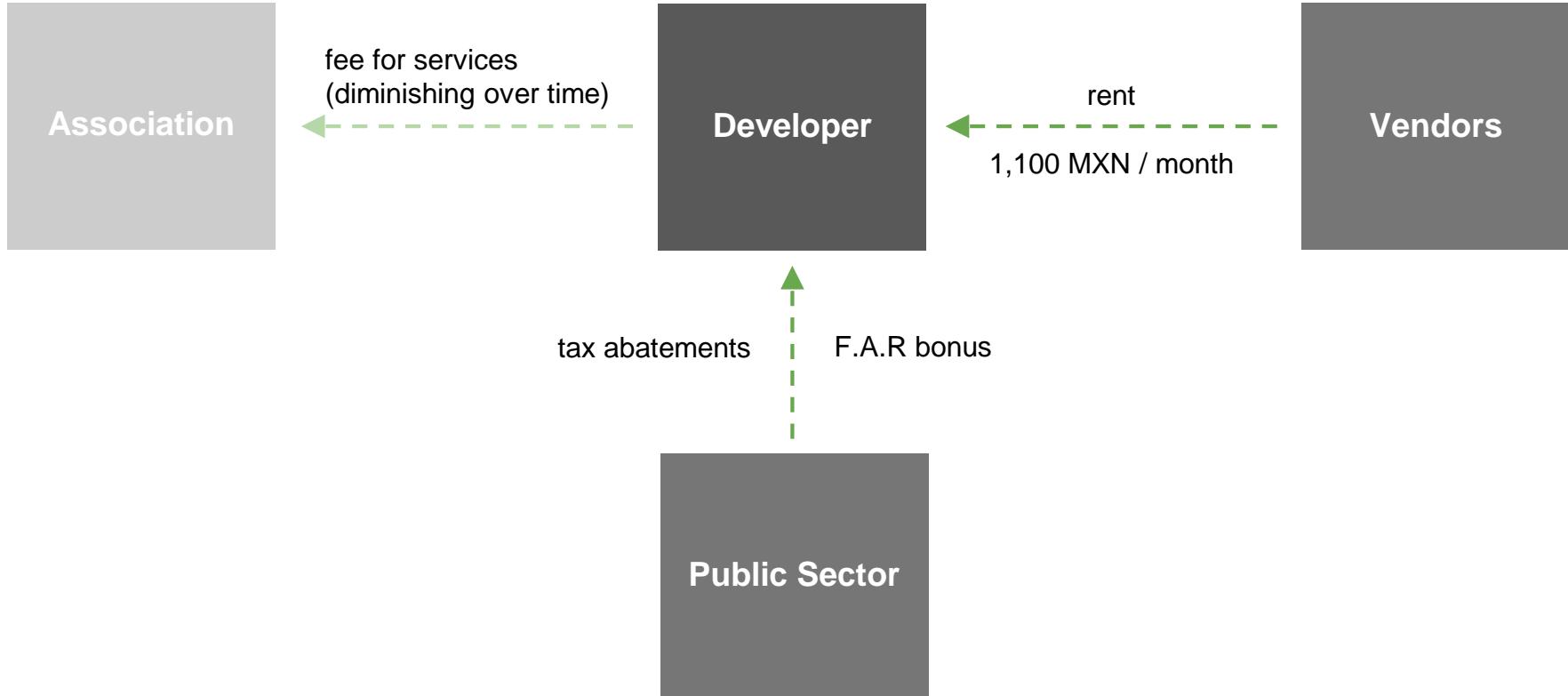


Flow of Capital



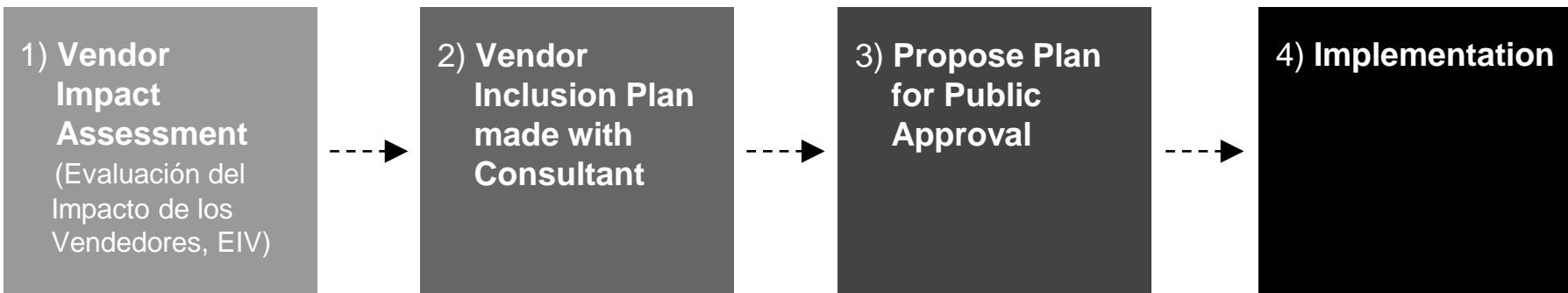


Public Sector Incentives





Timeline of Strategy





Incentives / Responsibilities

	Developer	Vendors	Association	Public Sector
Incentives	<ul style="list-style-type: none">- F.A.R. increase- Tax abatements- Additional foot traffic- Additional revenue from vendors	<ul style="list-style-type: none">- Key can keep working on site- Those that want to can leave the informal sector	<ul style="list-style-type: none">- Fee from developer for services	<ul style="list-style-type: none">- More equitable solution- Safer streets- Diffusion of potential political tension
Responsibilities	<ul style="list-style-type: none">- EIV- Work with consultant on vendor inclusion strategy	<ul style="list-style-type: none">- Take part in the EIV- Apply for one of the 4 programs	<ul style="list-style-type: none">- Security (short term)- Coordinating vendors during the move	<ul style="list-style-type: none">- Provide permits to use sidewalk space- Supply business development, access to credit, and job training for vendors

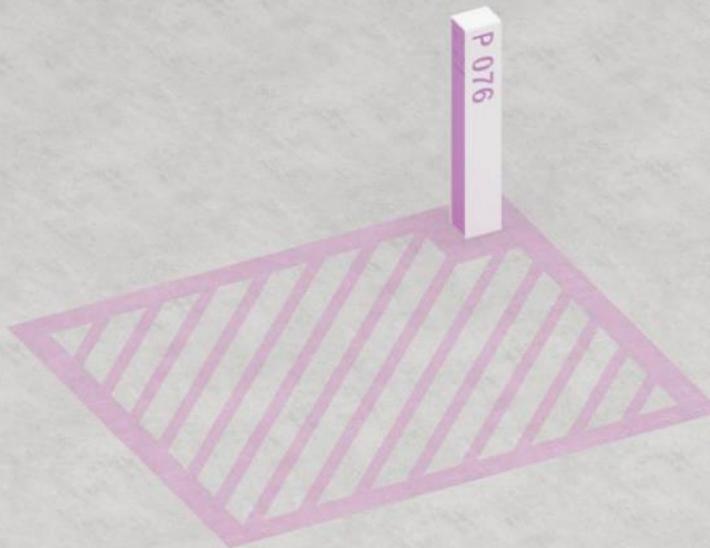


4 Developer Strategies for Vendor Inclusion

Strategies	# of Stalls	Benefits	Financial considerations
	1) Provide Sidewalk Space for Vendors w/Services	240	Street activation Collect monthly fees  Fee for services Rent for services: $\$1.1K/\text{mo.} \times 240 = \$264K$
	2) Create Open Air Market with a Focus on Food	150	Boosts foot traffic Complementing retail  Build, curate & operate market
	3) Offer Indoor Retail Opportunities	20	Biz Dev for Vendors Diversified retail  Diminishing rent subsidy to vendor's business
	4) Secure alternative Job Opportunities on Site	50 jobs	Local workforce Vendor stall reduction  Programmatic costs for job placements



1) Sidewalk Stalls

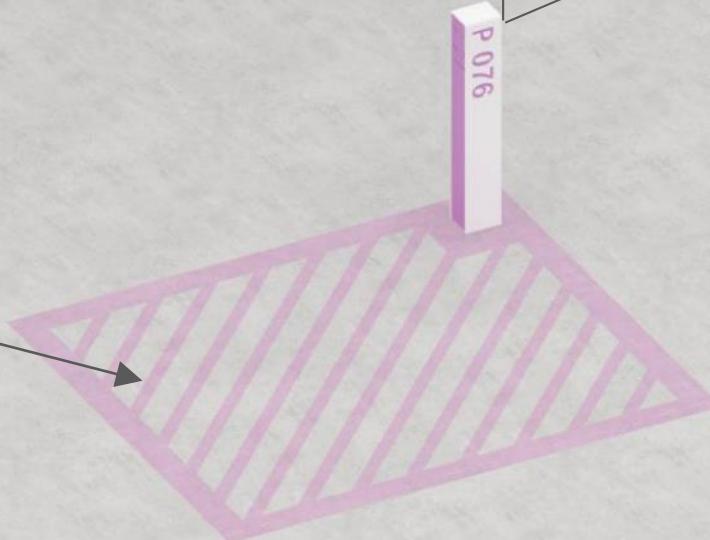
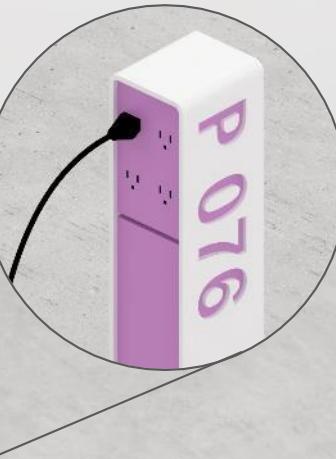




1) Sidewalk Stalls

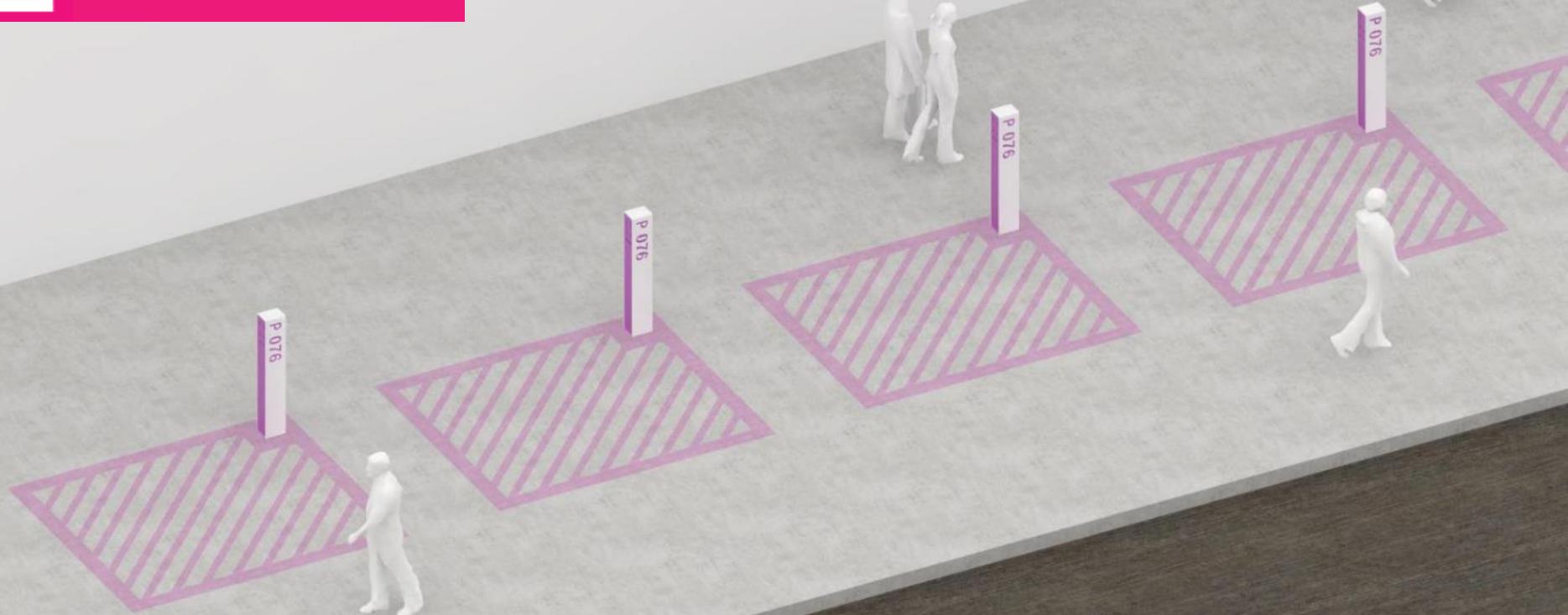
Private Development
1. bathrooms
2. water
3. storage

Public Space
4. electricity
5. stall space



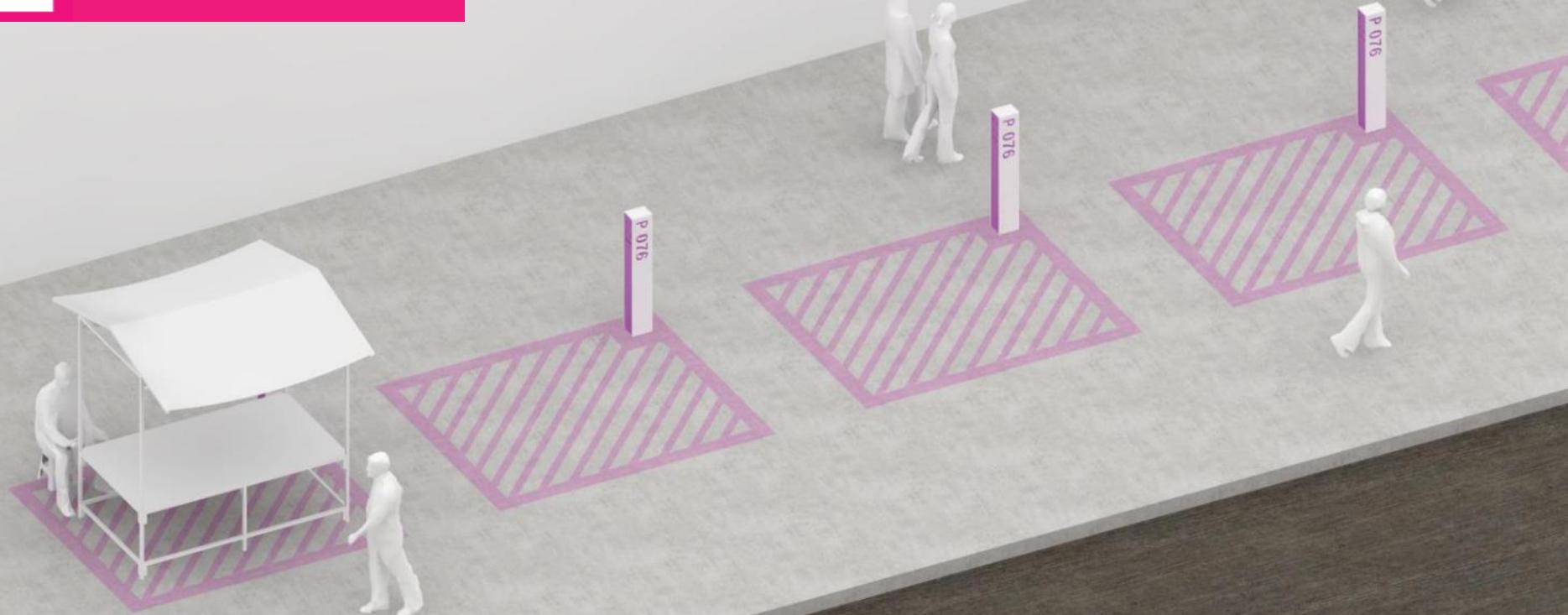


Room for Growth



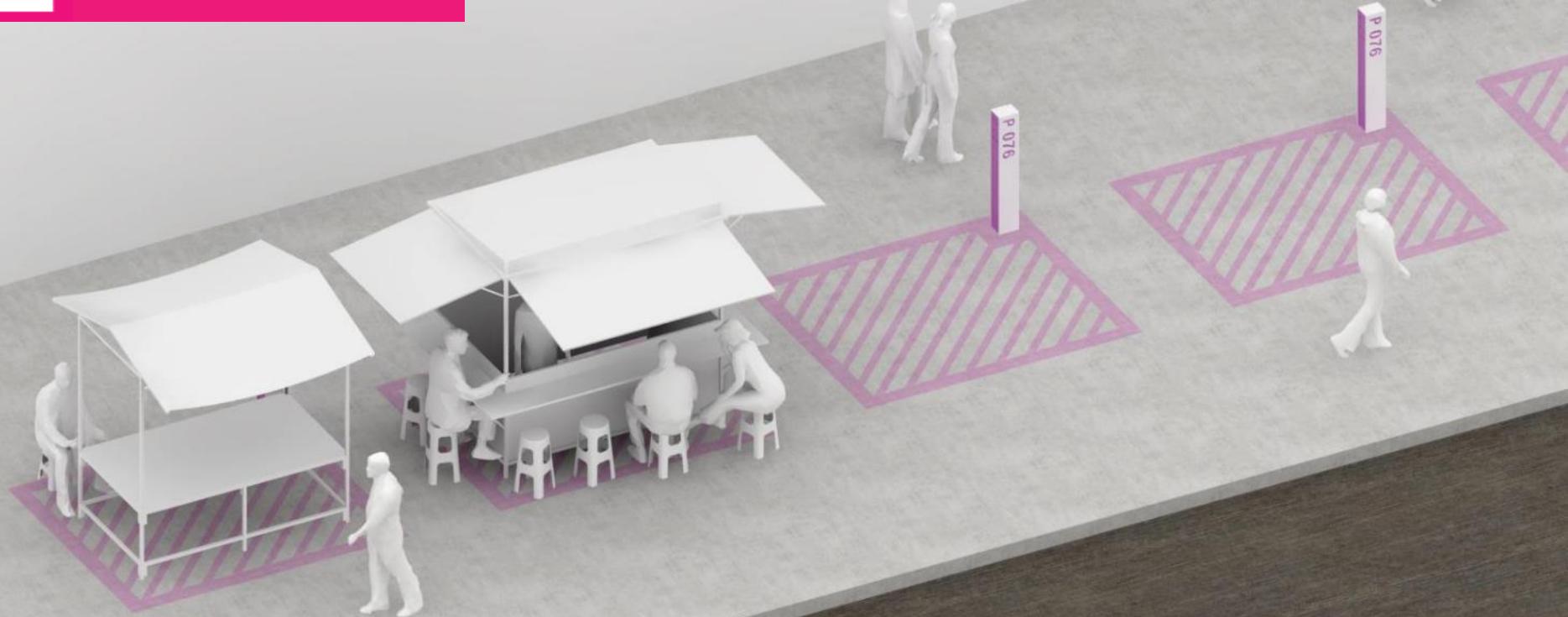


Room for Growth



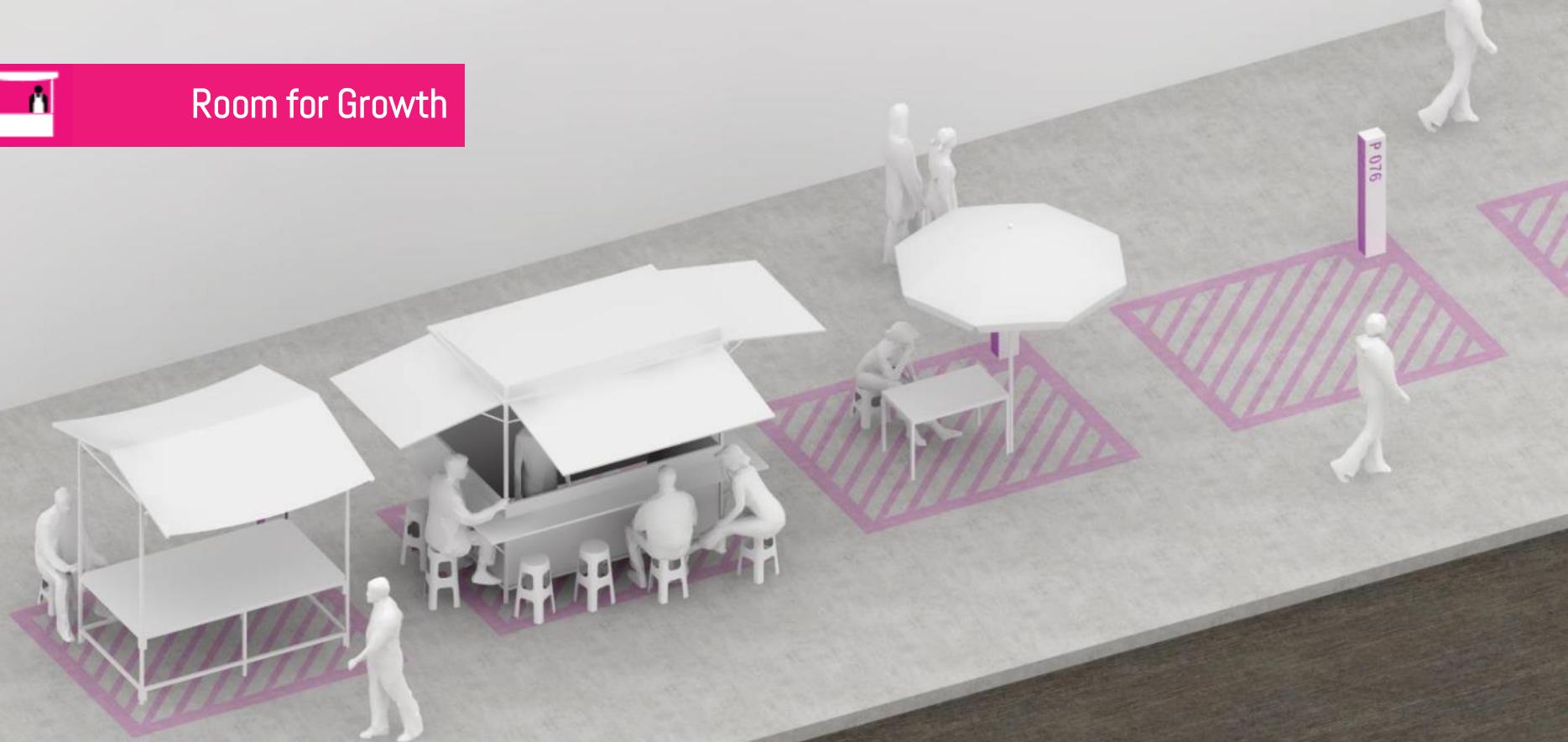


Room for Growth



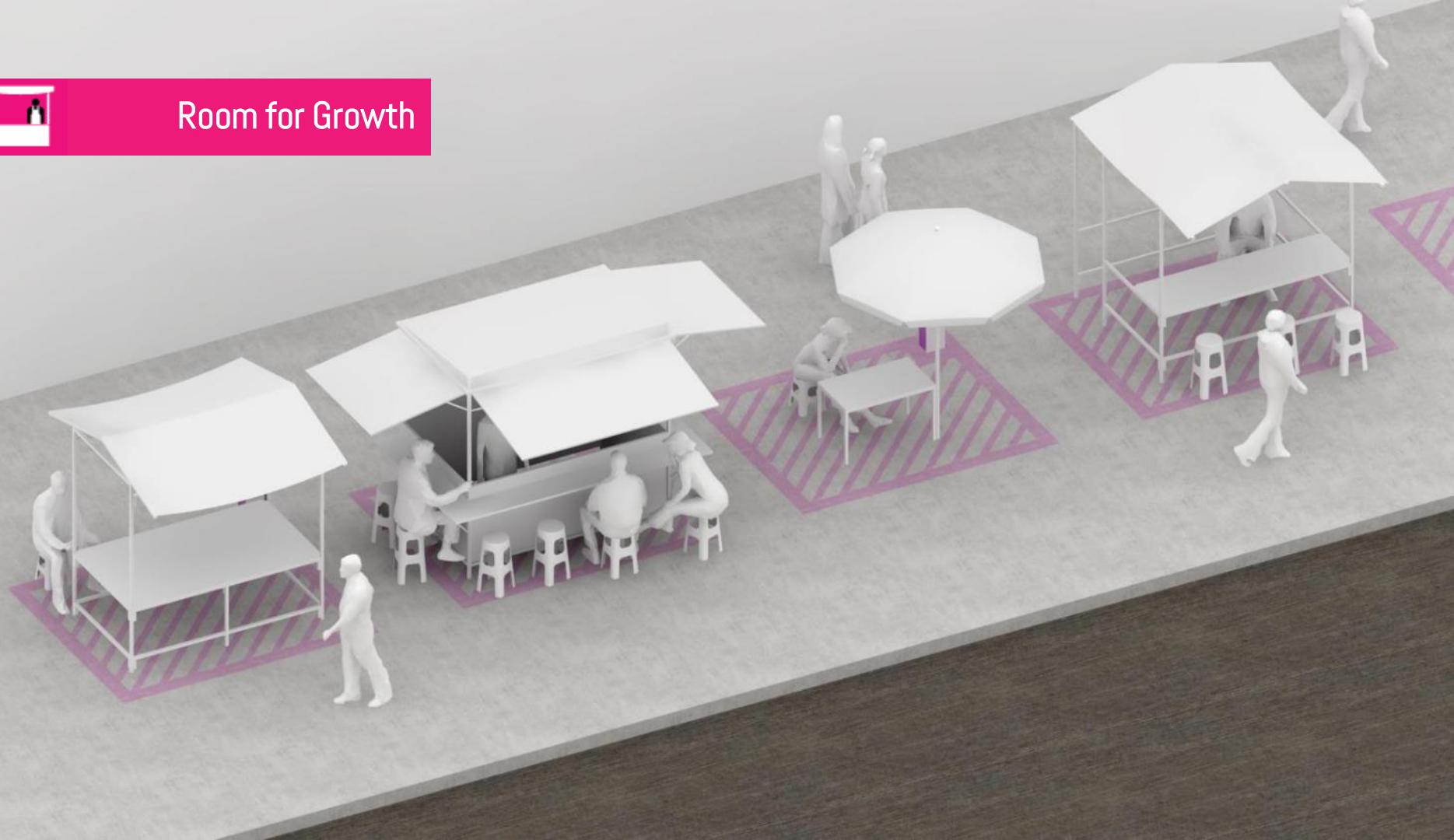


Room for Growth





Room for Growth



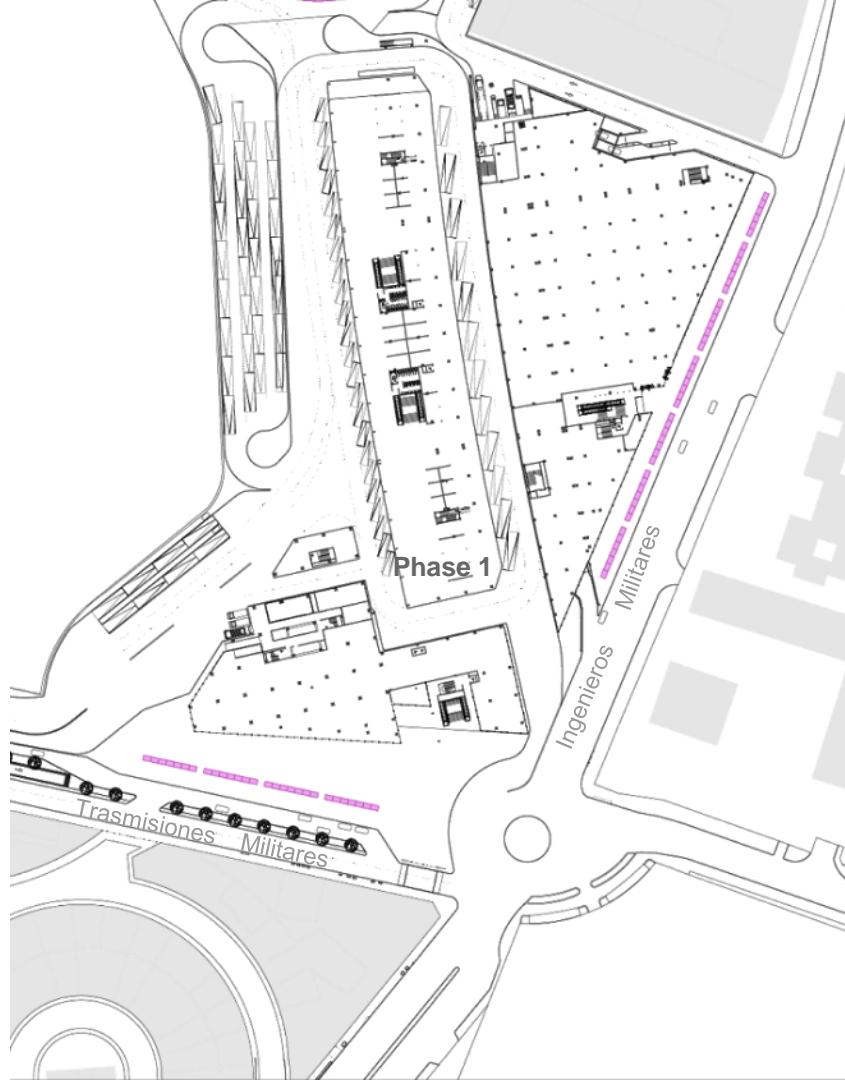


Possible Locations

240 Stalls

Rent for services:

\$1.1K/mo. x 240 = **\$264K**





2) Market



Queens Night Market, New York City



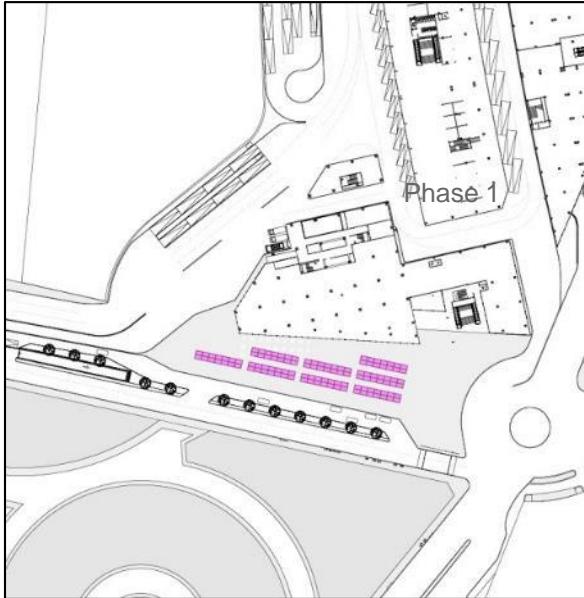
Zhongli Night Market, Taiwan



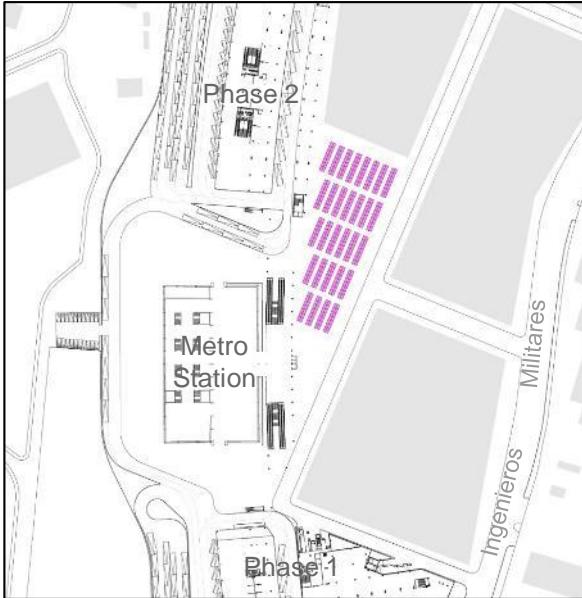
Bugis Street Market, Singapore



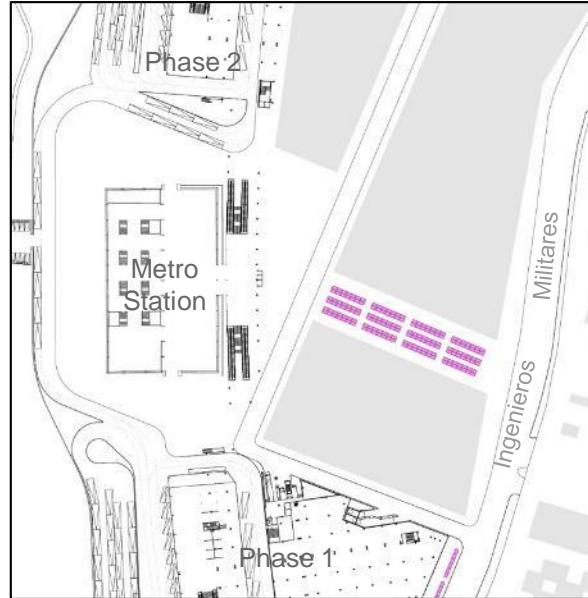
Potential locations



Phase 1
Sidewalk
112 Stalls
total rent = \$124,544 / month



Phase 2
near Metro Entrance
400 Stalls
total rent = \$444,800 / month



Off Site
Entrance to Subway
168 Stalls
Total Rent = \$186,816 / month

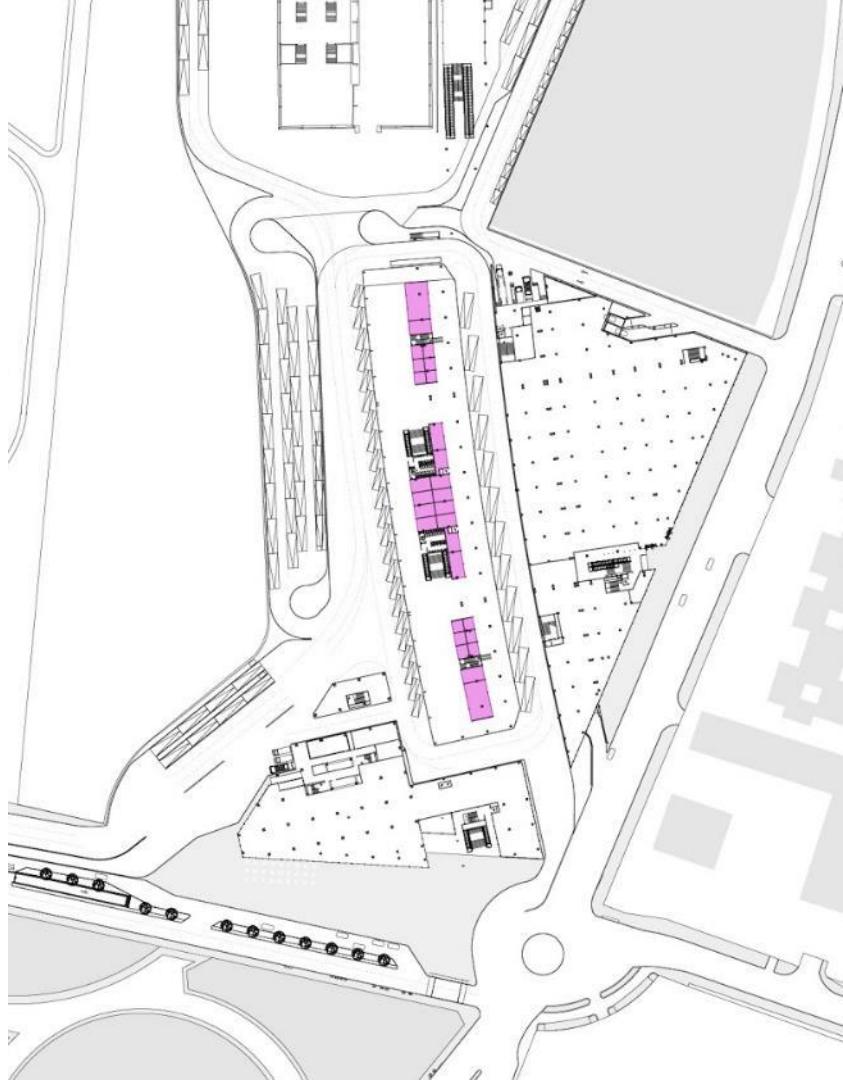


3) Offer Indoor Retail Opportunities

Bring vendors into the retail center with idea that they will pay close to market rent

Public sector will offer capacity building program

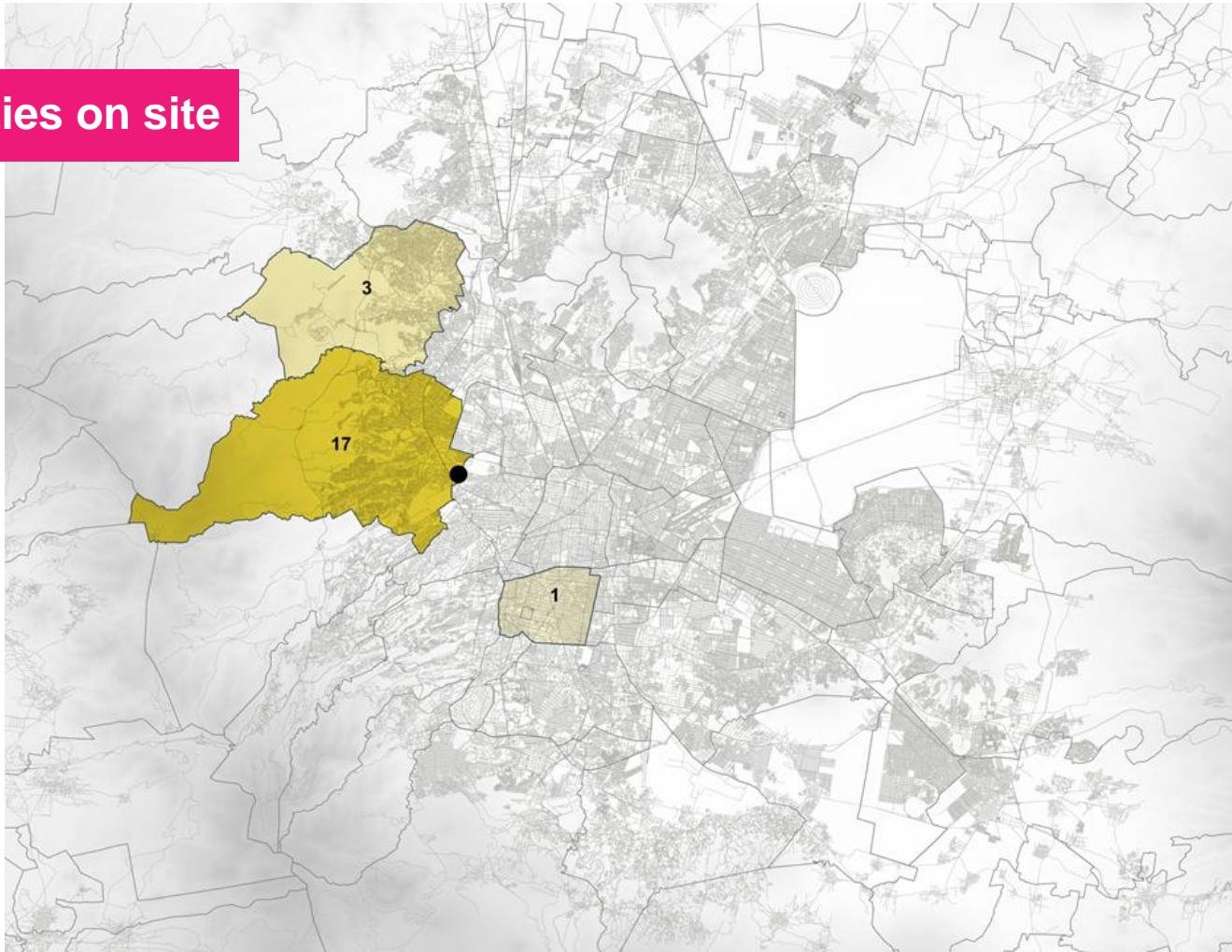
- Small biz loans and Technical Assistance



4) Job opportunities on site

Place interested vendors
into jobs within the new
site facilities

- Including retail
facilities & bus
terminal)

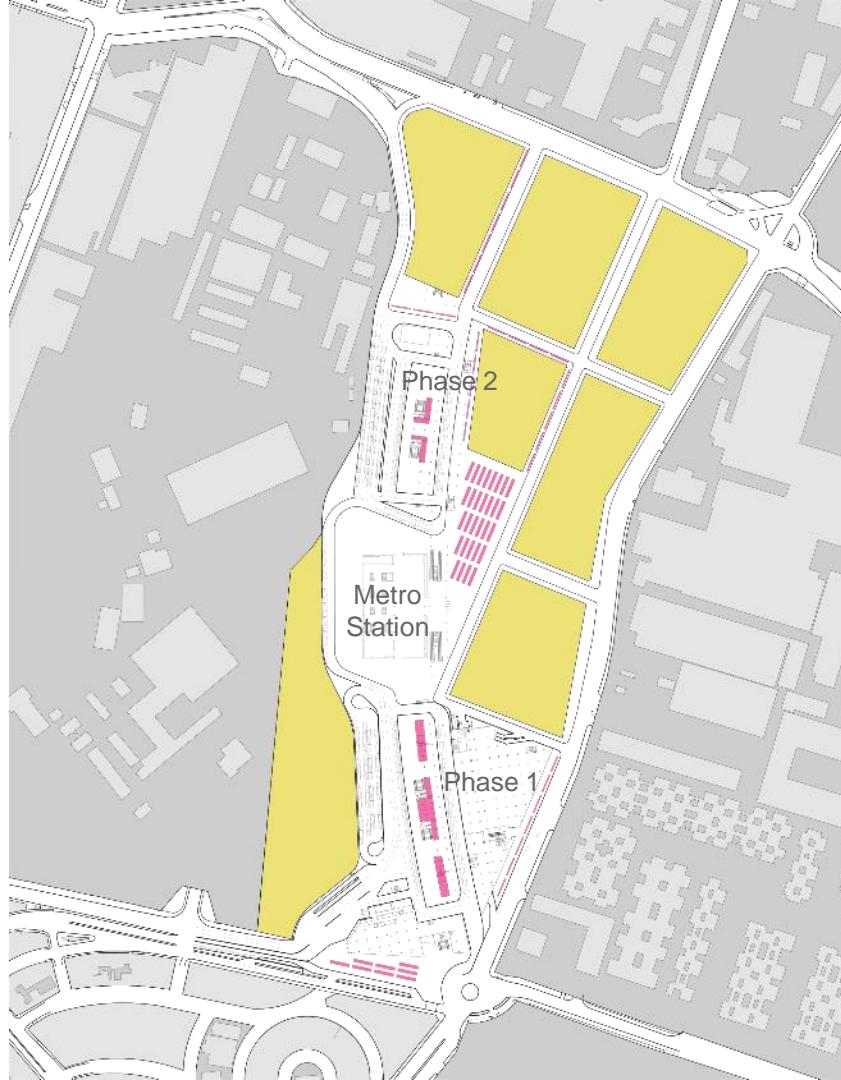




Integrated Approach

The public streetscape created with the new block structure works in conjunction with the street vendors by giving them space.

- 410 Street Vending Stalls Incorporated
- 50 Local On-Site Job Placements

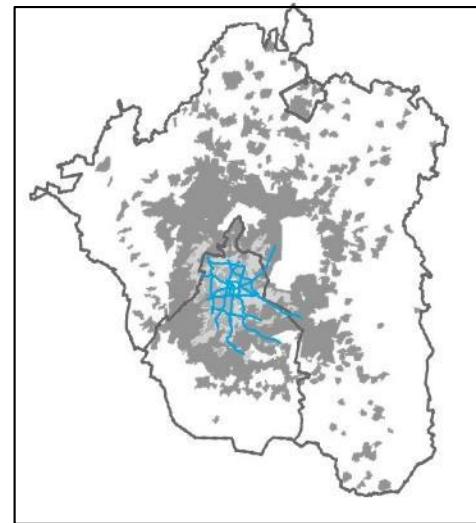
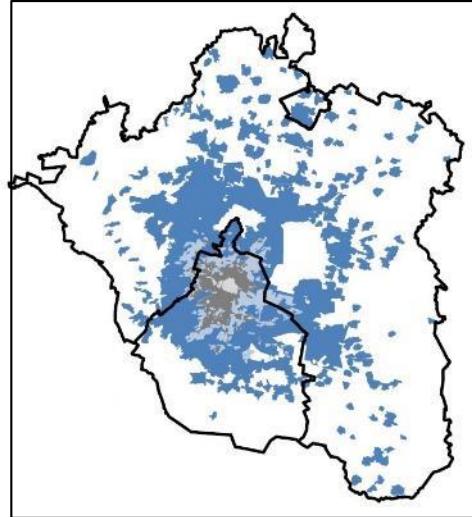


SUMMARY

Our Insights

TOD

Diverse
Accessible
Connected to transit
Public space
Walkable
Affordable

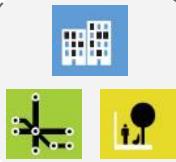


Our Idea in Action



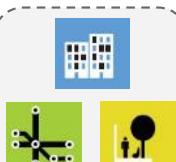
ZMVM TOD Policy

El Rosario



Community Land Trust
Microbus Tech
Wayfinding

San Joaquín



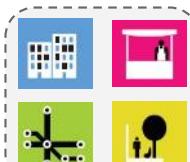
Connectivity
Inclusionary
Development

Cuatro Caminos



Incorporate vendors
Commercial corridor
Block redesign

Tacubaya



Central bus station
Value capture and
Inclusionary
development

