



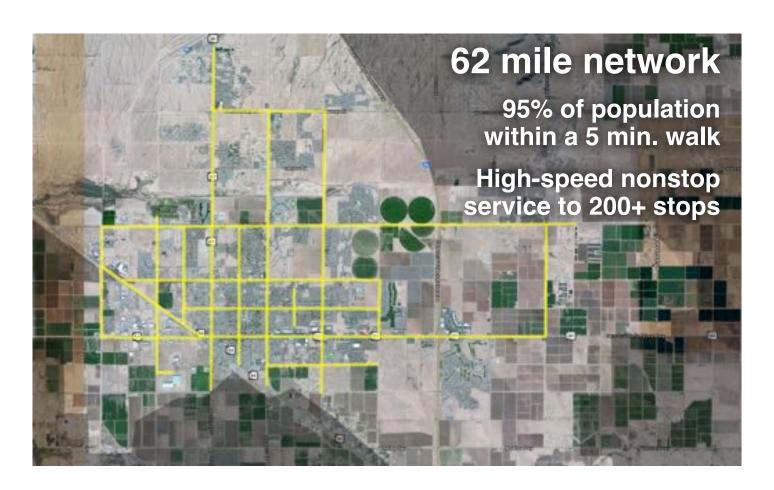
Transit X, LLC presents a preliminary proposal for

# Casa Grande, Arizona

For a privately-funded shared mobility service that is

# High capacity • High speed • Nonstop • 24/7 Solar powered • Wait-free • Door-to-door • Resilient

26-page companion Transit X Handbook is available at transitx.com/transitxhandbook.pdf







Transit X proposes to build and operate a privately-financed automated pod network in Casa Grande, Arizona that makes the Transit X service convenient to 95% of the population.

Transit X efficiently services both suburbs and cities and provides for a higher quality of life. See transitx.com for more details. This 3-minute video (transitx.com/video) describes our innovative solution.

#### **Major benefits**

- Reduce congestion
- · Provide parking relief
- · Reduce pollution
- · Improve safety

The Transit X Handbook (<u>transitx.com/</u> <u>transitxhandbook.pdf</u>) answers many questions about our service, the company, our technology, and the way we address:



congestion, parking, road safety, pedestrian safety, ADA compliance, sustainability, fares, solar+storage, construction, aesthetics, operations, economic development, quality of service, security, station footprint, equitability, carbon footprint, transit integration, resiliency, reliability, rights-of-way, and open space.

#### Congestion, parking, pollution, and safety

Most regions suffer from traffic congestion, limited parking, air pollution, and unsafe roads. Potential solutions are costly, but Transit X can solve these challenges without public funding. Transit X can integrate into the built environment, providing both short term relief and a long term solution.

#### No public funding

Transit X does not require public funding because our business model appeals to investment banks and private equity firms that provide our project financing. Most of our infrastructure is factory-built, so that installation is fast and not disruptive. We have reduced or eliminated many costs of transportation infrastructure including materials, land, construction, fuel, debt service, and driver costs. Our approach to significantly reducing costs makes private financing possible.

#### Proven technology

Our team and partners have built fully automated transit systems that are now in operation — Morgantown, WV, BART, and several others in Europe. Transit X may look unique, but the underlying design is very similar to systems that have been operating for 40 years with an exemplary safety record. An in-depth (1000+hours) technical assessment and feasibility analysis has been completed by

Altran. Altran is a global engineering firm with extensive expertise in automated transit systems. The first pilots of Transit X will be deployed by the end of 2018.

Before any groundbreaking, the system will be safety-certified and fully insured.

#### **Quality Service**

Transit X provides on-demand, last-mile service that is superior to cars or buses. A service level agreement will guarantee high levels of availability and reliability. Our use of small vehicles (pods) makes this possible. By reducing car use, Transit X creates walkable and bike-friendly neighborhoods.

### Less pollution: Air, Sound, Light, Visual, Water

Transit X offers a much higher quality of life by eliminating many forms of pollution. Pods are quiet and have no emissions. Pods offer less visual impact than the existing roads and vehicles, and utility lines can be hidden within the track. At night, there is no light pollution from headlights or taillights. Water pollution from road runoff is significantly reduced.

#### Sustainable

Transit X runs on 100% sustainable energy and has a zero carbon footprint. The energy generated from solar panels on the track and stored within the poles is sufficient in most cases, but sustainable power contracts would provide backup power. Transit X makes it possible to reduce the amount of impervious surfaces and increase green space by reducing the need for parking and roads.

#### More transit & less cars

Transit X provides the convenience and privacy that people value in cars, yet without the negative impacts from personal car use. Transit X combines the best of mass transit and personal transportation modes which will lead to higher use of mass transit and less use of personal vehicles.

#### De-risking projects

Transit X is working with large, established firms to provide fixed-price contracts for the engineering, certification, construction, and operations of a Transit X system. Theses partnerships enable Transit X to de-risk all of the major elements of the project, and provide performance guarantees.

We will work with regional urban planning and construction firms who are familiar with local codes and requirements.

#### Jobs and workforce development

Many jobs are created to build a new transportation infrastructure and transition away from roads. Municipalities that first embrace Transit X will be offered the opportunity to have Transit X manufacturing and assembly jobs in their area. The vast majority of the construction jobs will be locally sourced. Preferential hiring would be given to those workers potentially displaced by the transition to automated vehicles.

#### Revenue generator

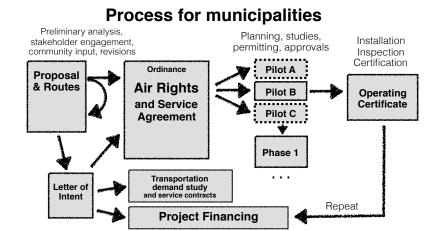
Not only does Transit X not require public financing, but the local municipality receives 5% of gross revenue. For specifics, please see the "Taxes and Fees" section of this proposal.

#### Short and long term

A project could be operational within 24 months from the start of a project. Transit X offers a short term solution that provides long term benefits. We would form a local company to build, operate, and maintain the network. At least 75% of the profits would be invested back into the region.

#### Moving forward

The diagram shows our general process for working with a municipality. We would refine a proposal to meet your needs, then ask for a letter stating that you would like to move forward with a proposal that includes air rights and and a service agreement. Example documents and a sample project schedule can be viewed at transitx.com/process



#### **Evaluation**

Please review our preliminary proposal, and then ask us any questions. We would be happy to provide further information, address specific concerns, or meet with specific people or groups. Any routes or coverage areas shown on the map are only preliminary suggestions and actual routes would be determined based on needs, rights-of-ways, utility corridors, location of trees, and many other factors.

We expect this proposal to be reviewed by one or more committees or working groups. Familiar transportation options, such as buses, light rail, subways, and ride-sharing services (including autonomous vehicles) may have already been considered. Very few options offer the convenience of cars with at least the capacity of buses, and most, if not all, require public funding and subsidies.

Private cars have a dominant mode share because people like the privacy and convenience of a car — despite the significant risks and negative impact associated with them. People won't give up their cars unless the alternative is both better and cheaper. That is what Transit X can provide.

We hope you agree that this proposal offers a way to address your challenges in both the short and long term, providing an option that is better and lower risk than any alternative — including continuing with the status quo.

Whatever process you use to evaluate this proposal, Transit X is open to working with you on refining this proposal to meet your needs. We hope you will conclude that moving forward with Transit X is an excellent opportunity to meet your current and future challenges.

Once we agree on how to move forward, we would ask for a letter (example at <a href="mailto:transitx.com/process/loi.html">transitx.com/process/loi.html</a>) stating that you intend to pass an ordinance for use of air rights along with a service agreement.

The buildout of the network would be rolled out in phases, where a first phase could be a 15 to 30 km pilot.

#### **Other Resources**

The resources below provide more general information:

- Transit X Handbook (transitx.com/transitxhandbook.pdf)
- Video overview (transitx.com/video)
- · Letters of Project Financing, Due Diligence, Contracts (transitx.com/letters.pdf)
- Sample Ordinance (transitx.com/process/ordinance.html)
- Service Agreement (<u>transitx.com/process/service\_agreement.html</u>)
- General Q & A (<u>transitx.com/QandA.html</u>)

#### Addendum

The remaining pages of this proposal provide more details specific to this project:

- Financial Project Summary with Pro Forma, pages 6-7
- Project Overview, Impact, and Assumptions, pages 8-9
- Taxes and Fees with Footprint, pages 10-11
- Fair Fare Policy, page 12

We look forward to working with you to improve the quality of life in Casa Grande through better transportation.

Sincerely,

Mike Stanley CEO, Transit X

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Skype: mikestanley49 WeChat: MikeTransitX WhatsApp: +1 508-596-7024

Twitter: https://twitter.com/MikeTransitX

Facebook: https://www.facebook.com/mike.stanley.526875

Zoom eRoom: https://zoom.us/j/8229009123

Mail: 1127 Commonwealth Ave #30, Boston, MA 02134 USA





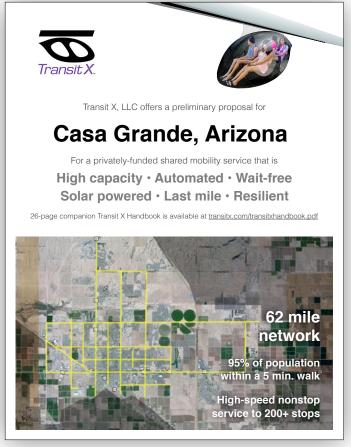
Project Description	Solar-powered automated transportation network infrastructure
Project type	Project financing of Green Infrastructure
Project cost	\$239 million
Projected IRR	36%
Cap rate	38%
Structure	Equity and Debt
Debt term	10 years @ 5%
Equity terms	15 years with 15% Target IRR With a waterfall profit distribution of: 1. 90/10 split until Return of Capital, 2. then 50/50 until Target IRR met 3. then 10/90
Benefits to society and environment	Extremely high

#### **Financials**

(US Dollars in millions)	Year 1	Total Years 1-10
Gross Revenues*	107	1,797
Operating Expenses	17	197
Debt service	\$22	\$216
Net Operating Income	\$68	\$1,384

#### ESG (Environmental, Social, Governance) Benefits

Clean energy	yes	Resiliency	yes
Energy security	yes	Sustainable	yes
Emissions-free	yes	Equitable	yes
GHG-free	yes	Recyclable mat.	yes
Lowers pollution	yes	Affordable housing	yes
Clean water	yes	Improved Health	yes
Improved Safety	yes	Economic Devel.	yes
Fix Infrastructure	yes	Food security	yes



#### **About Transit X**

Transit X designs, builds, and operates solar-electric shared mobility infrastructure to supplant buses, trains, cars, and trucks. Transit X offers its service to municipalities and commercial developers. A demonstration system will be ready in early 2018, and pilots will begin by 2019. Transit X is a privately held company founded in 2015, based in Boston, Mass, and intends to be certified as a public benefit company.

#### Status

	Now	Prior to close
Project financing	Letter of Interest	Yes
Proven concept	Yes	Yes
Demonstration system	In development	Yes
Ridership study		Yes
Environmental study		Yes
Air rights	Letter of Intent	Ordinance
Permits	Known process	Yes
Safety certification	Guar. fixed price	Yes
Construction (BOP):	Letter of intent	Guar. fixed price
Operations & Maint:	Letter of intent	Guar. fixed price
Project Engineering	TBD	25% design

General information available at <u>transitx.com</u>. Detailed information and references can be provided under appropriate non-disclosure/non-compete/non-circumvent agreements. Contact: Mike Stanley, CEO, Transit X, mike@transitx.com, 508-596-7024



#### **Model Inputs and Assumptions**

99	Route length (km)						
853	Starting Pods						
<u>15%</u>	Projected revenue growth						
stops, subsidies, rd party services,	Revenues to include passenger fares developer fees, private leasing, private branc muni contracts, carbon credits, conduit leasin para-transit, private shuttle						
\$238,559,860	Project Cost						
<u>70%</u>	% Debt financed						
\$166,991,902	Debt						
\$71,567,958	Equity						
\$14,313,592	Capital return per year						
15%	Target IRR						
\$10,735,194	Target return per year						
\$21,626,215	Debt payment (per year)						

Travel per year per pod (km)	210,205
Revenue per vehicle-km (US\$)	0.60
Cost per pod	\$5,000
OPEX as % of project cost	5%
OPEX as % of revenue	5%
Debt Interest rate	5%
Debt term (yrs)	10
Equity term (yrs)	15
Years to return equity capital	<u>5</u>
Profit share when below capital return	90%
Profit share when below Target IRR	50%
Profit share when above Target IRR	10%

#### **Pro Forma**

Years	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Revenue	0	107,045,174	123,101,950	141,567,242	162,802,328	187,222,678	215,306,079	247,601,991	284,742,290	327,453,633	376,571,678	433,057,430	498,016,045	572,718,451	658,626,219
OPEX	0	17,280,252	18,083,091	19,006,355	20,068,109	21,289,127	22,693,297	24,308,093	26,165,108	28,300,675	30,756,577	33,580,865	36,828,795	40,563,916	44,859,304
Debt service	0	\$21,626,215	\$21,626,215	\$21,626,215	\$21,626,215	\$21,626,215	\$21,626,215	\$21,626,215	\$21,626,215	\$21,626,215	\$21,626,215	0	0	0	0
Free cash flow	0	68,138,707	83,392,644	100,934,672	121,108,004	144,307,335	170,986,567	201,667,683	236,950,967	277,526,743	324,188,886	399,476,566	461,187,249	532,154,536	613,766,915
Waterfall distribution															
1. Capital return	0	\$14,313,592	\$14,313,592	\$14,313,592	\$14,313,592	\$14,313,592	0	0	0	0	0	0	0	0	0
2. Expected return	0	\$10,735,194	\$10,735,194	\$10,735,194	\$10,735,194	\$10,735,194	\$10,735,194	\$10,735,194	\$10,735,194	\$10,735,194	\$10,735,194	\$10,735,194	\$10,735,194	\$10,735,194	\$10,735,194
3. Over Exp return	0	43,089,921	58,343,858	75,885,886	96,059,218	119,258,550	160,251,373	190,932,490	226,215,773	266,791,550	313,453,692	388,741,372	450,452,056	521,419,342	603,031,721
Investor share	0	22,558,821	24,084,215	25,838,418	27,855,751	30,175,684	21,392,734	24,460,846	27,989,174	32,046,752	36,712,966	44,241,734	50,412,802	57,509,531	65,670,769
Investor share %		33%	29%	26%	23%	21%	13%	12%	12%	12%	11%	11%	11%	11%	11%
Investor IRR	0%	12%	14%	16%	19%	22%	30%	34%	39%	45%	51%	62%	70%	80%	92%
Investor balance	\$(71,567,	\$ (49,009,137)	\$ (24,924,922)	\$ 913,496	\$ 28,769,248	\$ 58,944,932	80,337,666	\$ 104,798,512	\$ 132,787,686	\$ 164,834,438	\$ 201,547,404	\$ 245,789,138	\$ 296,201,941	\$ 353,711,472	\$ 419,382,241
Investor IRR to date	loss	-68%	-24%	1%	14%	23%	26%	29%	31%	32%	33%	34%	35%	36%	36%

#### **Important Notices**

The information contained in this document is not an offer to sell or a solicitation to buy any security. These materials and documents and information from which they are derived or which are referred to by or accessible from them may contain forward looking statements within the meaning of Section 27A of the Securities Act of 1933, Section 2E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical fact are forward looking statements and are subject to risks and uncertainties. Forward looking statements generally can be identified by the use of forward looking terminology such as "may," "will," "expect," "intend," "estimate," "project," "anticipate," "believe" or "plan" or the negative thereof or variations thereon or similar terminology. Although Transit X believes that the expectations reflected in such forward looking statements are reasonable, it can give no assurance that such expectations will prove to be correct. All forward looking statements speak only as of the date made. Except as required by law, Transit X undertakes no obligation to update any forward looking statement to reflect events or circumstances after the date on which it is made or to reflect the occurrence of anticipated or unanticipated events or circumstances. These materials and documents and information from which they are derived or which are referred to by or accessible from them represent Transit X's best estimate as to the allocation of the funding proceeds based upon its present business plan and financial condition. The costs and expenses to be incurred in pursuing the Company's business plan cannot be predicted with certainty. There can be no assurance that unforeseen events will not occur or that the Company's business plan will be achieved or that it will not be changed, and it is possible that the funding proceeds may be applied in a manner other than that described herein.



## **Project Overview**

		1	
Size of region	285	km²	109.9 sq miles
Number of people in region (residents + visitors)	54,534		491,144,720 miles
Travel distance per year by all people (residents and visitors)	790,743,000	km	491,144,720 IIIIles
Percentage of all travel that occurs within the region  Road coverage (percent of area conveniently served by paved roads)	80% 30%		
Service area size		lema 0	33.0 sq miles
Coverage: percent of people convenient (5 min walk) to Transit X	85.5 95%	KM² 	
Estimate #1 for network length based on desired coverage	99	km	61.8 miles
Length of paved roads in region	<u>345</u>		214.6 miles
Estimate #2 for network length based on length of public roadways		km	51.0 miles
Transit X network length	99	km	61.8 miles
Route density ratio (route length to service area)	1.16		
Tunnel length	0.0	km	
High-speed X Way length	0.0	km	
Total costs for project not including pods	\$225,769,860		
per person	\$4,140		
Mode share of travel on Transit X	85%		
Distance traveled on Transit X, per year	537,705,240	km	333,978,410 miles
per day	1,473,165		915,009 miles
Potential energy generation (ideal)		MWh	
Energy consumption per day		MWh	7% of max capacity
Daily number of people riding Transit X		customers	
Distance per Transit X customer per day		km	19.7 miles
Average distance per trip (with 3 trips per day)	11		6.6 miles
Passenger fare for 11 km trip (at \$0.30 per km)	\$3.16	KIII	0.0 1111100
Distance traveled during peak hour	294,633	km	183,002 miles
5.1			
Drockovon	15 21 /		
Breakeven	15,314	customers per day	
Breakeven	15,314	customers per day (30% of people conveni	ient to Transit X)
		(30% of people conveni	ient to Transit X)
Number of pods needed to meet peak demand	2,558	(30% of people conveni pods	ient to Transit X)
Number of pods needed to meet peak demand  Distance per pod per year	<b>2,558</b> 210,205	(30% of people conveni pods km	ient to Transit X)
Number of pods needed to meet peak demand  Distance per pod per year  Pod garage volume [unit: cubic shipping containers]	<b>2,558</b> 210,205 5	(30% of people conveni pods	ient to Transit X)
Number of pods needed to meet peak demand  Distance per pod per year  Pod garage volume [unit: cubic shipping containers]  Cost of pods	<b>2,558</b> 210,205 5 \$12,790,000	(30% of people conveni pods km	ient to Transit X)
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Number of pods needed to meet peak demand  Distance per pod per year  Pod garage volume [unit: cubic shipping containers]  Cost of pods  Cost of pod per person  Project finances  Total project cost (privately financed)	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958	(30% of people conveni pods km	ient to Transit X)
Number of pods needed to meet peak demand  Distance per pod per year  Pod garage volume [unit: cubic shipping containers]  Cost of pods  Cost of pod per person  Project finances  Total project cost (privately financed)  OPEX (O&M) per year  Private equity  Financed	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958 \$166,991,902	(30% of people conveni pods km	ient to Transit X)
Number of pods needed to meet peak demand  Distance per pod per year  Pod garage volume [unit: cubic shipping containers]  Cost of pods  Cost of pod per person  Project finances  Total project cost (privately financed)  OPEX (O&M) per year  Private equity  Financed  Gross Revenue from fares	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958 \$166,991,902 \$160,505,014	(30% of people conveni pods km	ient to Transit X)
Number of pods needed to meet peak demand  Distance per pod per year  Pod garage volume [unit: cubic shipping containers]  Cost of pods  Cost of pod per person  Project finances  Total project cost (privately financed)  OPEX (O&M) per year  Private equity  Financed  Gross Revenue from fares  EBITA (Profit)	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958 \$166,991,902 \$160,505,014 \$140,551,770	(30% of people conveni pods km	ient to Transit X)
Number of pods needed to meet peak demand  Distance per pod per year  Pod garage volume [unit: cubic shipping containers]  Cost of pods  Cost of pod per person  Project finances  Total project cost (privately financed)  OPEX (O&M) per year  Private equity  Financed  Gross Revenue from fares  EBITA (Profit)  Debt service	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958 \$166,991,902 \$160,505,014 \$140,551,770 \$25,048,785	(30% of people conveni pods km	ient to Transit X)
Number of pods needed to meet peak demand  Distance per pod per year  Pod garage volume [unit: cubic shipping containers] Cost of pods Cost of pod per person  Project finances  Total project cost (privately financed) OPEX (O&M) per year Private equity Financed Gross Revenue from fares EBITA (Profit) Debt service Fees and taxes	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958 \$166,991,902 \$160,505,014 \$140,551,770 \$25,048,785 \$8,025,251	(30% of people conveni pods km	ient to Transit X)
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Number of pods needed to meet peak demand  Distance per pod per year  Pod garage volume [unit: cubic shipping containers]  Cost of pods  Cost of pod per person  Project finances  Total project cost (privately financed)  OPEX (O&M) per year  Private equity  Financed  Gross Revenue from fares  EBITA (Profit)  Debt service  Fees and taxes  OPEX + Debt service + Tax + Fees  Net income	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958 \$166,991,902 \$160,505,014 \$140,551,770 \$25,048,785 \$8,025,251 \$53,027,280 \$107,477,734	(30% of people conveni pods km	ient to Transit X)
Number of pods needed to meet peak demand  Distance per pod per year  Pod garage volume [unit: cubic shipping containers]  Cost of pods  Cost of pod per person  Project finances  Total project cost (privately financed)  OPEX (O&M) per year  Private equity  Financed  Gross Revenue from fares  EBITA (Profit)  Debt service  Fees and taxes  OPEX + Debt service + Tax + Fees  Net income  Operating Margin	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958 \$166,991,902 \$160,505,014 \$140,551,770 \$25,048,785 \$8,025,251 \$53,027,280 \$107,477,734 88%	(30% of people conveni pods km	ient to Transit X)
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Number of pods needed to meet peak demand  Distance per pod per year  Pod garage volume [unit: cubic shipping containers]  Cost of pods  Cost of pod per person  Project finances  Total project cost (privately financed)  OPEX (O&M) per year  Private equity  Financed  Gross Revenue from fares  EBITA (Profit)  Debt service  Fees and taxes  OPEX + Debt service + Tax + Fees  Net income  Operating Margin  Project costs — per person	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958 \$166,991,902 \$160,505,014 \$140,551,770 \$25,048,785 \$8,025,251 \$53,027,280 \$107,477,734 88% \$4,375	(30% of people conveni pods km sc <sup>3</sup>	ient to Transit X)
Number of pods needed to meet peak demand  Distance per pod per year  Pod garage volume [unit: cubic shipping containers]  Cost of pods  Cost of pod per person  Project finances  Total project cost (privately financed)  OPEX (O&M) per year  Private equity  Financed  Gross Revenue from fares  EBITA (Profit)  Debt service  Fees and taxes  OPEX + Debt service + Tax + Fees  Net income  Operating Margin  Project costs — per person  Number of motor vehicles displaced	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958 \$166,991,902 \$160,505,014 \$140,551,770 \$25,048,785 \$8,025,251 \$53,027,280 \$107,477,734 88% \$4,375 37,083	(30% of people conveni pods km sc <sup>3</sup>	ient to Transit X)
Number of pods needed to meet peak demand Distance per pod per year Pod garage volume [unit: cubic shipping containers] Cost of pods Cost of pod per person  Project finances  Total project cost (privately financed) OPEX (O&M) per year Private equity Financed Gross Revenue from fares EBITA (Profit) Debt service Fees and taxes OPEX + Debt service + Tax + Fees Net income Operating Margin Project costs — per person Number of motor vehicles displaced Yearly cost of cars displaced — per person Operating costs per passenger-mile	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958 \$166,991,902 \$160,505,014 \$140,551,770 \$25,048,785 \$8,025,251 \$53,027,280 \$107,477,734 88% \$4,375 37,083 \$6,120 \$0.16	(30% of people conveni pods km sc <sup>3</sup>	ient to Transit X) 302,299 miles
Number of pods needed to meet peak demand Distance per pod per year Pod garage volume [unit: cubic shipping containers] Cost of pods Cost of pod per person  Project finances  Total project cost (privately financed) OPEX (O&M) per year Private equity Financed Gross Revenue from fares EBITA (Profit) Debt service Fees and taxes OPEX + Debt service + Tax + Fees Net income Operating Margin Project costs — per person Number of motor vehicles displaced Yearly cost of cars displaced — per person Operating costs per passenger-mile Breakeven revenue distance per day	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958 \$166,991,902 \$160,505,014 \$140,551,770 \$25,048,785 \$8,025,251 \$53,027,280 \$107,477,734 88% \$4,375 37,083 \$6,120 \$0.16	(30% of people conveni pods km sc <sup>3</sup> motor vehicles	
Number of pods needed to meet peak demand Distance per pod per year Pod garage volume [unit: cubic shipping containers] Cost of pods Cost of pod per person  Project finances  Total project cost (privately financed) OPEX (O&M) per year Private equity Financed Gross Revenue from fares EBITA (Profit) Debt service Fees and taxes OPEX + Debt service + Tax + Fees Net income Operating Margin Project costs — per person Number of motor vehicles displaced Yearly cost of cars displaced — per person Operating costs per passenger-mile	2,558 210,205 5 \$12,790,000 \$235  \$238,559,860 \$19,953,244 \$71,567,958 \$166,991,902 \$160,505,014 \$140,551,770 \$25,048,785 \$8,025,251 \$53,027,280 \$107,477,734 88% \$4,375 37,083 \$6,120 \$0.16	(30% of people conveni pods km sc <sup>3</sup> motor vehicles	



## Impact of proposed network

Reduction in CO2 emissions	53,098 metric tons CO <sub>2</sub>
Est. cost to maintain 345 km roadway	\$17,619,980
Reduced waste products per year	5,943 metric tons
Travel time saved per year	564 hrs/person
Cost savings per capita per year from reduced car ownership	\$3,729
Increase in household income from time saving and car costs	27%
Reported injuries avoided per year	333
Lives saved per year	3
Land freed from parking (211 acres)	852,912 m <sup>2</sup>
and its commercial value	\$852,912 per year
Health care savings	High
Heat island mitigation from replacing asphalt with green space	1 to 3 °C
Change in global temperature	TBD °C
Decrease in sea level	TBD mm

## **Model Inputs**

•			
Ratio of road length to track length	4		
Convenient walk time to Transit X route	5	min.	
Walking speed	4.9	km/h	3 mph
Width of convenient swath along track	0.82	km	1 miles
Fixed cost for main route per km	\$3,100,000		
Fixed cost per km for branch	\$1,550,000		
Percentage of Dual Track	46%		
Project cost per km for track	\$2,269,975		
Water tunnel: additional cost per km	\$13,000,000		
High-speed X Way: additional project cost per km	\$10,000,000		
Median distance traveled per person per year (for trips under 1600 km)	14,500	km	9,006 miles
Mode share % of people convenient to Transit X	<u>85%</u>	at 5 min walk.	
Percentage of daily travel during peak hour	20%		
Max capacity: number of pods per km of track	150	pods	
Max track capacity during peak hour as % of capacity	20%		
Average speed of pod	72	km/h	45 mph
Average # of trips for people riding Transit X	3	per day	
Average occupancy per pod during peak hours	2	people	
Average occupancy per pod	1.25	people	
Maximum occupancy per pod	5	people	
Empty pods: Percentage non-revenue vehicle travel	25%		
Cost per pod	\$5,000		
Median per capita (15 yrs+) income (US\$)	30,000		
Base fare per km	\$0.30		
(per mile)	\$0.48		
O&M as % of project cost	<u>5%</u>		
O&M as % of gross revenue	<u>5%</u>		
Percentage debt financed	<u>70%</u>		
Length of loan/debt	<u>10</u>	years	
Interest rate for debt	<u>5%</u>		
kg CO2 emissions per liter of gasoline	2.37		
Monetary value of 1 hour personal time	7.5		
Eat. roadway maintenance per year per km	<u>\$51,000</u>		
Area of one parking lot space	23	m²	247 sf
Commercial income of land	\$1	per m²	
Distance from roadway that is convenient	0.25	km	
Stops per km	2.0		
Solar panel area per meter of track	1.5		
Global Horizontal Irradiance (GHI)	<u>3.8</u>	kWh/m²/day	

### Pod & Car

	Pod	Car
Service life (years)	20	12
Full cost of vehicle per year	\$200	\$9,000
Public cost to maintain infrastructure (per km)	\$0	\$100,000
Energy Efficiency in MPGe	1188	24
Energy Efficiency in liters/100km	0.20	9.8
Energy used (Watt-hours/km)	28	1375
mass of CO2 per vehicle per km (kg)	0	0.09875
Vehicle mass (kg)	45	1950
Average speed of travel (km/h)	72	16
Typical travel time (in minutes) for 11 km trip	9	40
Fare/cost per km	\$0.30	\$0.62
Number of deaths per 100M passenger-km	0.00001	1
Number of injuries per 100M passenger-km	0.0006	62
Volume to park (cubic meters)	5.7	70.9

#### **Currency conversion**

CAR FREE





4% of gross revenue proportioned to air rights owners and a municipal fee/tax of 1% of gross revenue. Both air rights and fee/tax have a minimum payment based on the Footprint and the Transit X Commercial Rate (TXCR).

	Note: Inputs have box our	tline		
Municipal rates				
Total commercial land area	3,000,000	m²	32,289,000	sq ft. (741.3 acres)
Total commercial income to muni	\$3,000,000			
TXCR (Transit X Commercial Rate)	\$1.00	per m²		
TXCR is the yearly tax rate per land area. Calculation: total land area of commercial properties in the municipality, divided by all the municipal income generated by those properties. The TXCR is used to calculate the minimum tax/fee.				
Project Revenue				
Length of Transit X route	99	km	62	miles
Estimated gross revenue per unit length	\$1,613,778	per km		
Municipal Tax	% of gross revenue with	th minimum.		
1% gross revenue	\$16,138	per route-km		
Minimum per year	\$1,421	per route-km	\$2,292	per route-mile
Air Rights Leasing Fee	% of gross revenue with	th minimum	Drapartianed based	on longth
% of route on municipal land		iri mimimumi.	Proportioned based	on length.
·	90%			
4% gross revenue		per route-km		
Minimum per year	\$1,421	per route-km	\$2,292	per route-mile
Taxes and Fees				
Paid to Municipality	\$7,383,231	per year		
with minimum	\$268,505			
Paid to Private land owners	\$642,020			
with minimum	\$14,132			

## Footprint calculations for minimum fee

Pod Stop

23 m (75 ft)

## Yearly fees and taxes

Silhouette

6.4 m (21 ft)

Side
Silhouette

**Impediment**Silhouette

Note: Diagrams for illustrative purposes.

Pedestrian Envelope

Pole

Footprint Calculations	Metric	Imperial
Track width	<u>0.41</u> m	16.1 inches
Track height	<u>0.61</u> m	24.0 inches
Pole diameter	<u>0.3</u> m	11.8 inches
Pole cross section	<u>0.07</u> m <sup>2</sup>	0.8 sf
Stop landing area	<u>1</u> m <sup>2</sup>	10.8 sf
width	<u>1</u> m	39.4 inches
length	<u>1</u> m	39.4 inches
Ramp length	<u>21</u> m	68.9 feet
Pole span	<u>23</u> m	75.5 feet
Number of poles per unit length	43.5 poles per km	70.0 poles per mile
Pole height	<u>6</u> m	19.7 feet
Single track	1126.7 m <sup>2</sup>	12124 sf
Area of Side Silhouette	688.3 m <sup>2</sup>	7406 sf
Area of Top Silhouette	423.1 m <sup>2</sup>	4553 sf
Impediment Area (adjusted)	15.4 m <sup>2</sup>	165 sf
Dual track	1536.7 m <sup>2</sup>	16535 sf
Area of Side Silhouette	688.3 m <sup>2</sup>	7406 sf
Area of Top Silhouette	833.1 m <sup>2</sup>	8964 sf
Impediment Area (adjusted)	15.4 m <sup>2</sup>	165 sf
Stop	51.8 m <sup>2</sup>	558 sf
Area of Side Silhouette	25.6 m <sup>2</sup>	276 sf
Area of Top Silhouette	21.2 m <sup>2</sup>	228 sf
Impediment Area (adjusted)	5.0 m <sup>2</sup>	54 sf
Stops	2 stops per km	3.2 stops per mile
% of dual track	46%	0.2 Stops per fille
70 Of Gual track	4070	
Average area per unit length	1,421 m² per route-km	24,659 sf per route-mile
Contract values		
% gross revenue for muni tax/fee	1%	
% gross revenue for air rights	4%	
Impediment Factor	5	



# **Fair Fare Policy**

Fares will be similar to existing mass transit, and several times less than taxis or ride-sharing services. Transit X Fair Fare is a universal passenger fare model that applies to all regions and all times. Fares are proportional to the median income of the area and inversely proportional to per capita use, so the more people that use Transit X, the lower the base fare. Market-rate fares are offset by Half-price fares. There are no pre-set escalations.

		Initial	50% share	+50% Income	90% Usage
Median income per capita	US\$	30,000	\$30,000	\$45,000	\$30,000
Nominal fare	US\$	0.3	\$0.30	\$0.45	\$0.30
Per Capita Usage %		1%	50%	50%	90%
Discount for usage	US\$	0.0015	\$0.08	\$0.11	\$0.14
Base Fare (US\$)	per km	0.30	\$0.23	\$0.34	\$0.17
per pass	enger-mile	0.48	\$0.36	\$0.54	\$0.27
% Fares at Market rate		<u>20%</u>	<u>30%</u>	<u>40%</u>	<u>50%</u>
% Fares at Base rate		80%	60%	40%	20%
% Fares at Half Base rate		0%	10%	20%	30%
Estimated average fare	per km	0.48	\$0.42	\$0.71	\$0.39

### Price comparison with common travel modes (in Boston, USA)

	Mode »	Bus	Commuter Rail	Subway	Personal Car	Taxi / TNC's
Average distance (km)		5	18	8	8	5
Price per trip	US\$	\$1.85	\$8.00	\$2.50	\$6.00	\$12.00
Typical price per km	US\$	\$0.37	\$0.44	\$0.31	\$0.75	\$2.40

#### **Base Inputs**

Median travel distance per capita per year (under 1000 mile trips)	20,000	km
% of per capita median income for 20,000 km transportation	<u>20%</u>	
Fare Discount when Transit X travel per capita is 20,000 km per year	50%	