

Transit X presents a preliminary proposal for a privately-financed, solar-powered micro-rail network — a fleet of automated electric vehicles (pods) for passengers and freight on a local and regional podway providing public transportation for

# Cambridge, MA

This proposal is downloadable at transitx.com/proposals/Transit X for Cambridge,MA.pdf

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

A 24-page companion Transit X Handbook is available at transitx.com/transitxhandbook.pdf

# 194 mile network with 3,125 pods

95% of population within a 3 min. walk

Nonstop 45 mph service to 2,110 stops



# Transit X proposes to build and operate a green, privately-financed micro-rail podway to carry passengers and freight for Cambridge 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.

# **High Capacity**

A single track carries 12,000 pods per hour (20,000 to 50,000 passengers per hour). Two boarding areas fit in a single car space and provide 2,000 boardings per hour.

# Zero Footprint and Minimal Disruption

Transit X features stops that don't interfere with pedestrians or other forms of transportation. We use easements alongside highway and roads and integrate utility lines and poles Non-stop interchanges fit above existing intersections. Factory-built tracks and posts enable fast installation with minimal disruption. Use of underground tunnels is an option. Posts are typically spaced at 23 m (25 yds).

# No public funding

Transit X does not require government funding because our revenue from fares, freight, and advertising is greater than our costs. We have reduced or eliminated many costs of transportation including the cost of materials, land, construction, fuel,

debt service, and labor. Our projects are financed by investment banks and private equity firms.

# **Proven technology**

Our team and partners have built fully automated systems that are now in operation around the world. 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. The rollout and maiden flight occurred on Oct 29, 2018 in Leominster, Massachusetts. The first Transit X system will be demonstrated by the end of 2019.

# **Service Quality**

Transit X provides on-demand, last-mile service that is superior to cars or buses. An operating 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, efficient and have zero 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. Parking lots and roadways can be converted into green space and community paths as they become unnecessary.

# Sustainable and Efficient

Pods weigh only 45 kg (100 lbs) and achieve over 20 times the efficiency of electric cars. Solar, wind, and storage installed on our tracks and posts can provide 100% of the clean energy needed to power the system.

# More Transit & Fewer Cars

Transit X provides the convenience and privacy that people value in cars, yet without the negative impacts of personal cars. Transit X combines the best of mass transit and personal transportation modes which will lead to greater use of public transit and fewer cars.

# **De-risking Projects**

Transit X partners 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 work with local construction firms.

# Jobs and Workforce Development

Many regional jobs will be created to build a new transportation infrastructure, as well many new types of jobs will be created from economic growth. The majority of the construction jobs will be locally sourced and preferential hiring is given to those displaced by the transition.

## **Revenue Generator**

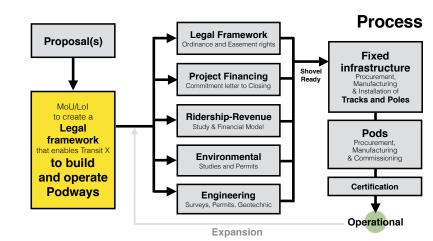
Not only does Transit X not require public financing, but the government and private easement owners receive 4-5% of gross revenue, which would be US\$19 million per year average over the first 10 years.

## Short and Long Term Solution

A project could be operational within 24 months from the start of a project. Transit X offers a rapidly-deployable 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 process for a project. We submit a project proposal, then ask for a commitment for Transit X to build and operate a podway along rights-of-way easements. Example documents and a sample project schedule can be viewed at: <u>transitx.com/process</u>



#### 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 ridesharing 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.

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 to move forward, we look to receive a commitment for Transit X to build and operate a podway along rights-of-way easements.

A podway network is rolled out in phases that each take less than 24 months.

#### **Other Resources**

The links below provide general information about Transit X:

- One minute video overview (transitx.com/video)
- <u>Transit X Handbook (transitx.com/transitxhandbook.pdf</u>)
- · Letters of Project Financing, Due Diligence, Contracts (transitx.com/letters.pdf)
- Memorandum of Understanding template (transitx.com/process/mou.html)
- Example Right-of-Way agreement (transitx.com/process/resolution.html)
- Operating Agreement (transitx.com/process/operating\_agreement.html)
- General Q & A (transitx.com/QandA.html)
- Other proposals (transitx.com/proposals)

#### Addendum

The remaining pages of this proposal provide project-specific details:

- Project Overview and Impact pages 6 and 7
- Taxes and Fees pages 8 and 9
- Fares page 10 and 11
- Financial Project Summary with Pro Forma pages 12 and 13

We look forward to working with you to improve the quality of life for Cambridge through better transportation.

Sincerely,



Email: rodneydixon@transitx.com or hello@transitx.com Telephone: +1 818-855-4106 (WhatsApp connected) Zoom e-room: https://zoom.us/j/8229009123 Website: transitx.com Twitter: http://twitter.com/TransitXCorp Mail: 1127 Commonwealth Ave #30, Boston, MA 02134 USA



# **Project Overview**



1	Transit X network length	313	km	194.5 miles
2	People (resident-equivalent) in region	132,781	resident-equivalent	oopulation
3	Route density ratio (route length to service area)	1.94		
4	Number of stops	2,110		
5	Triple-speed route length	-	km	
6	Water crossing route length		km	
7	Cost of fixed infrastructure	\$1,135,658,112		
8	per person	\$8,553		
9	Mode share of travel on Transit X (27% after first year)		after 10 years	44E 942 020 miles
10	Distance traveled by passengers on Transit X, per year	717,805,667		445,842,029 miles
11	per day	1,966,591		1,221,485 miles
12	Daily potential energy generation with standard panels on tracks	2,405		1% of max capacity
13 14	Sustainable energy use per day		MWh	1 /0 Of max capacity
15	Energy storage capital cost for 1 day(s) of supply at \$100 per kWh	\$1,333,395 3,100	KW	
16	Size (rated power) of solar installation	\$3,099,931		
17	Cost to generate sustainable energy (at \$1,000 per kW) Cost of buying sustainable energy at \$0.15 per kWh	\$3,099,931	per dav	1% of OPEX
18	Daily passengers riding Transit X		customers	83% of the pop.
19	Distance per passenger per day		km	11.1 miles
20	Average distance per trip (assuming 3 trips per day)		km	3.7 miles
21	Single passenger fare for shared 6 km trip	\$1.50		
22	Passenger distance traveled during peak hour	393,318	km	244,297 miles
23	Breakeven			73% of expected and 64% to Transit X)
24	Boarding capacity	759,600	passengers per nou	r (688% of customers)
~ -		0 4 0 5		
25	Number of pods for peak demand		pods at 83% m	
26	Number of customers per pod	35.3	and 42 people pe	
26 27	Number of customers per pod Distance per pod per year	35.3 168,200	and 42 people pe km	r pod
26 27 28	Number of customers per pod Distance per pod per year Two-layer pod garage area (2% of route with side–parking)	35.3 168,200 3,438	and 42 people pe km m <sup>2</sup>	r pod 0.2% of car parking
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# Project Overview p. 2



# Impact of proposed network

3 mph 0 mile

6,211 miles

45 mph

247 sf

44

1	Reduction in GHG emissions (metric tons CO2-eq)
2	Estimated cost to maintain public roadways
3	Reduced waste products
4	Travel time saved (non-stop travel and congestion)
5	Cost savings from reduced car ownership
6	Increase in household income (from time savings and car costs)
7	Reported injuries avoided
8	Lives saved (from safety)
9	Land freed from parking (408 acres)
12	Temperature reduction (from heat island effect & GHG reductions)
11	Health care savings (from pollution, injuries)

# **Model Inputs**

15	Ratio of road length to track length	4	
16	Walking speed	4.9	km/h
17	Width of convenient swath along track	0.49	
18	Fixed cost per km (track & posts)	\$2,790,000	
19	Water crossing: additional cost per km	\$8,370,000	
20	Triple-speed: additional cost per km	\$5,580,000	
21	Rate factor for water crossings or high-speed links.	2.2	
22	Average distance traveled per person per year (for trips under 1600 km)	10,000	km
23	Average distance per day per person	27	km
24	Mode share % of people convenient to Transit X	85%	at 5 min walk.
25	Percentage of daily demand during peak hour	20%	
26	Maximum capacity per track	23,598	pph
27	Average dwell time during peak hour	10	seconds
28	% of pods traveling on route with highest demand	18%	
29	Average speed of pod	72	km/h
30	Average # of trips for a daily customer	3	per day
31	Average passengers per pod during peak hours	2.2	passengers
32	Average passengers per pod	1.4	passengers
	Average discount per passenger	18%	
33	Maximum passengers per pod		passengers
34	Empty pods: Percentage non-revenue	25%	
35	Ex-Factory cost per pod	\$5,000	
36	Worldwide Median Income per Household (US\$)	10,000	
37	Average number of residents per household	2.3	
38	Base fare per km	\$0.42	
39	(per mile)	\$0.68	
40	O&M as % of project cost	5%	
41	Percentage debt financed	70%	
42	Length of loan/debt Interest rate for debt		years
43	kg CO2 emissions per liter of gasoline	7% 2.37	
44 45	Monetary value of 1 hour personal time (USD)	\$13.75	
45 46	Eat. roadway maintenance per year per km	\$51,000	
40	Area of one parking lot space		m <sup>2</sup>
47	Commercial income of land (annual)		per m <sup>2</sup>
40	Distance from roadway that is convenient	0.15	
50	Stops per km	6.7	NIT .
51	Boarding capacity per stop	360	pph
52	Solar panel area per meter of track	2.0	pp::
53	Cost of sustainable energy and storage	\$0.15	per kWh
54	Global Horizontal Irradiance (GHI)		kWh/m²/day
55	Cost to generate sustainable energy	\$1,000	per kW
56	Storage per column	40	kWh
57	Typical span	23	m cols/km:
58	Energy storage cost	\$100	per kWh
59	Energy storage capacity	1	days
60	Area of parked pod	2.20	m <sup>2</sup>
61	Distance discount at max distance	40%	
62	Max distance discount	500	km
63	Max usage discount at 10,000 km per capita	50%	
64	Shared Pod Discount	20%	
65	Shared Pod Compartment Discount	40%	
66	Mode share starting discount	67%	

70,883	MTCO2-eq annually
\$55,470,306	annually
11,503	metric tons annually
316	hrs/person annually
\$1,287	per person annually
10%	
445	annually
4	annually
1,650,953	m <sup>2</sup>
0.5 to 2	O°
High	

#### Model Inputs (continued)

68	Name of region or project	Cambridge, MA
69	Currency name	
70	Equal to US\$1	1
71	Sustainable energy/electricity generation & storage as	CAPEX
72	Land area of region (sq. km)	170
73	Number of residents in region	132,781
74	% travel within region	65%
75	% of land area served by roads	95%
76	Coverage: % of pop. convenient (3 min walk) to Transit X	95%
77	Annual median household income (US\$)	\$55,000
78	Convenient walk time to stop (min)	3
79	Triple-speed route length (km)	0
80	Water crossing route length (km)	0.0
81	Visitors per year	0
82	Average length of visit (days)	2
83	Solar production ratio	1.57
84	Regional Fare Factor	1.0
85	EPC costs & contingency	30%
86	Triple-speed (km/h)	242
87	Trip Distance Factor	1
88	Number of Stops Factor	1

# Pod & Car

		Pod	Car
87	Service life (years)	20	12
88	Full cost of vehicle per year	\$200	\$9,000
89	Public cost to maintain infrastructure (per km)	\$0	\$100,000
90	Energy consumption (MPGe)	3564	24
91	Energy consumption (liters/100km)	0.07	9.8
92	Energy consumption (Watt-hours/km)	9	1375
93	mass of CO2 per vehicle per km (kg)	0	0.09875
94	Vehicle mass (kg)	45	1950
95	Average speed of urban travel (km/h)	72	16
96	Typical travel time (in minutes) for 6 km trip	5	22
97	Fare/cost per km	\$0.42	\$0.62
98	Number of deaths per 100M passenger-km	0.00001	1
99	Number of injuries per 100M passenger-km	0.0006	62
100	Volume to park (cubic meters)	5.7	70.9



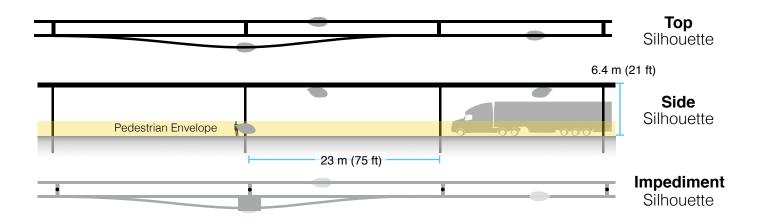
# **Taxes and Fees**

# 5% of gross revenue is paid for air rights and local taxes.

A minimum payment is based on the Footprint and the Transit X Commercial Rate (TXCR).

1	Air-rights and Local Taxe	s	(for calculating	g minimums)
2	Total commercial land (estimated)	16,150,000	m²	3,991 acres
3	Total commercial gov't revenue (US\$)	\$17,765,000		
4	TXCR (Transit X Commercial Rate)	\$1.10	per m <sup>2</sup>	
5	TXCR is the yearly tax rate per land area. Calculation: total land area of commercial properties in the governmental region, divided by all the governmental income generated by those properties. The TXCR is used to calculate the minimum tax/fee.	\$11.84	per sf	
7	Private Easement Fees	For example		
8	4% of gross revenue	\$15.12	per route- meter	\$4.61 per route-foot
9	Minimum per year	\$1.63	per route- meter	\$0.50 per route-foot
10	Government Fees a	and Taxes		
11	% of route on government easements	98%		
12	5% on government easements	\$23,196,812		
13	1% on private easements	\$94,681		
14	Total air-rights and local taxes	\$23,291,493	per year	
16	per resident	\$175		
15	with a minimum of	\$511,885	per year	

# Footprint calculations for minimum fee



1	Footprint Calculations	Metric	Imperial
2	Track width	<u>0.30</u> m	11.8 inches
3	Track height	<u>0.60</u> m	23.6 inches
4	Post diameter	<u>0.3</u> m	11.8 inches
5	Post cross section	<u>0.07</u> m <sup>2</sup>	0.8 sf
6	Stop landing area	<u>3.75</u> m²	40.4 sf
7	width	<u>1.5</u> m	59.1 inches
8	length	<u>2.5</u> m	98.4 inches
9	Ramp length	<u>21</u> m	68.9 feet
10	Typical Span	<u>23</u> m	75.5 feet
11	Number of posts per unit length	<u>43.5</u> poles per km	70.0 poles per mile
12	Post height	<u>6</u> m	19.7 feet
13			
14	Single track	1022.1 m <sup>2</sup>	10998 sf
15	Area of Side Silhouette	678.3 m <sup>2</sup>	7298 sf
16	Area of Top Silhouette	313.1 m <sup>2</sup>	3369 sf
17	Impediment Area (adjusted)	30.7 m <sup>2</sup>	331 sf
18			
19	Dual track	1322.1 m <sup>2</sup>	14226 sf
20	Area of Side Silhouette	678.3 m <sup>2</sup>	7298 sf
21	Area of Top Silhouette	613.1 m <sup>2</sup>	6597 sf
22	Impediment Area (adjusted)	30.7 m <sup>2</sup>	331 sf
23			
24	Stop	82.1 m <sup>2</sup>	883 sf
25	Area of Side Silhouette	25.2 m <sup>2</sup>	271 sf
26	Area of Top Silhouette	19.4 m <sup>2</sup>	208 sf
27		37.5 m <sup>2</sup>	404 sf
27	Impediment Area (adjusted)	37.3 m²	404 Sf
28			
29	Stops with dedicated landing areas	2 stops per km	3.2 stops per mile
30	% of dual track	100%	
31			
32	Average area per unit length	1,486 m <sup>2</sup> per route-k	m 25,793 sf per route-mile
33			
34	Contract values		
35	% gross revenue for government on private prop.	1%	
36	% gross revenue for private easement	4%	
37	% gross revenue for government easement	5%	
38	Impediment Factor	10	



Summary

The average commute would be 3.5 times faster saving each commuter 295 hours per year.\*

At 0.41 USD per mile, a typical commute on Transit X is 17% less than public transit and 74% less than a Taxi.\*

				Trip Length									
All prices in USD				1 mile					6 mile				25 mile
Transit X				<b>0.51</b> to 0.84 2 min., 3.6x faster				<b>2.50</b> to 4.19 8 min., 3.6x faster			ster	<b>9.59</b> to 16.34 33 min., 3.4x faster	
	ic tra erag			2.83				4.50				6.60	
nodes	Тах	i		2	<b>3.9</b> to 6 m		S			<b>17.(</b> 30 m		es	<b>66.47</b> 30 to 120 minutes
Common public modes	Uber/Lyft			<b>2.99</b> 2 to 6 minutes				<b>12.31</b> 8 to 30 minutes			es	<b>47.25</b> 30 to 120 minutes	
d uou	Public Bus			<b>2.28</b> 3 to 12 minutes				<b>2.28</b> 15 to 60 minutes			tes	<b>3.49</b> 60 to 240 minutes	
Com	Train			<b>3.42</b> 2 to 12 minutes				<b>4.03</b> 8 to 60 minutes			es	<b>6.31</b> 30 to 240 minutes	
Personal car				2 t	<b>3.2</b>		es		<b>1</b> 8 to 3	<b>0.</b> 30 m			<b>36.49</b> 30 to 120 minutes
Travel mode	Avg. Speed km/h	Low Speed km/h	High speed km/h	Base	Includ	Over	Min Dist km	Max Dist. km	Time cost per min		share 70%	-	* All numbers on mode shares, speeds, and cos are rough estimates
Taxi	30	20	80	2.28	es km 1	per-km			1.01			1%	-
Uber/Lyft	30	20	80	1.82	1	0.91			0.51		10%		
Public Bus	15	10	40	2.28	20	0.06	0.5	50	0	50%	50%	40%	
Train	30	10	80	3.42	2	0.08	2	100	0	35%	36%	57%	

Base fares are set for first 5 years, then adjusted by formula. A 20% discount on a shared pod and a 40% discount on a shared compartment. Trips are discounted proportional to their length reaching a maximum of a 40% discount on a 500 km trip. No congestion–based pricing. Fares are proportional to the median income of the area and inversely proportional to per capita use, so the more use of Transit X, the lower the base fare up a to 50% discount. The amount of market–rate fares must be less than the amount of discounted fares. Transit X Fair Fare Formula and Fair Freight Formula is universal and applies to all regions and all times.

0

0.23

0.25 0.1 50

0.76 0.1 400

72

30

72

20

72

80

0

1.52

0

0

Transit X

Personal car



# **Fair Fare Formula**

# Fare rates are updated annually using this formula

	IT di Ibio/C			
	Formula Name	Value	Units	Description of the value or model input
1	GlobalIncome	10,000	USD	Global median household income. Updated annually based on most recent
		,	002	standard published data.
2	AllTravel	23,000	km	Travel distance per household per year on any mode for trips under 1600 km. A global constant
3	PercentIncomeForTransport	20%		% of median household income for all transportation under 1600 km trips. A global constant.
4	GlobalRate	0.09	USD/km	Global rate: Globalincome * PercentincomeForTransport / AliTravel
5	IncomeFirst	\$55,000	USD	Median household income at first stop (per person per day). External input. Based on reliable public data source updated annually.
6	IncomeDest	\$82,500	USD	Median household income at destination per trip. External input. Based on reliable public data updated annually.
7	RegionalRate	0.48	USD/km	Regional rate based on median income: MedianIncomeFirst * PercentIncomeForTransport / AllTravel
8	UnderIncomeRate	0.00	USD/km	Under global income adjustment: if (RegionalRate < GlobalRate, GlobalRate - RegionalRate, 0)
9	NominalRate	0.48	USD/km	Nominal rate: RegionalRate + UnderIncomeRate
10	RegionalFactor	1.00		Regional Fare Factor. Negotiated upfront to make network financially viable.
11	AdjustedRate	0.48	USD/km	Regional adjusted rate: NominalRate * RegionalFactor
13	Population	132,781		Population in region. Updated annually based on trusted public data source.
12	UsageMaxDiscount	50%		Fare Discount when Transit X travel per household equals AllTravel. Global constant.
14	PassengerTravel	717,805,667	km	Total passenger distance traveled previous calendar year. Based on expected mode share for first 3 years. Based on actual passenger trips. Audited.
15	ModeShare	24%		Percent of Total Travel Per Capita on Transit X: PassengerTravel / (Population x AllTravel)
16	BaseRate	0.42	USD/km	Base rate for single-passenger pod (without discounts) (1 - UsageMaxDiscount x min(1,ModeShare)) x AdjustedRate
17	SpecialRateFactor	2.20		Rate factor for water crossings or high-speed links. Global constant.
18	SpecialBaseRate	0.93	USD/km	Base rate for high-speed travel or water crossings: BaseRate * SpecialRateFactor
19	DistanceDiscount	40%		Distance discount at max distance. Global constant.
20	MaxDistanceDiscount	500	km	Max distance discount. Global constant.
21	DistanceDiscountPerKm	0.000338	USD/km	Discount amount per km: BaseRate x DistanceDiscount / MaxDistanceDiscount
22 23	SeniorDiscount	20%		Senior discount set according to local regulations
23	StudentDiscount DisabilityDiscount	20% 20%		Student discount set according to local regulations
0.4	DiscountBaseRate		1100 //	Disability discount set according to local regulations
24	DiscountBaseRate	0.34	USD/km	Discounted base rate: BaseRate x (1 - SeniorDiscount)
25	SharedPodDiscount	20%		Discount for a shared pod. Set by Transit X per year. 15% minimum and 30% maximum. Maximum yearly change is one percentage point.
26	SharedPodRate	0.34	USD/km	Rate for a shared pod: BaseRate x (1 - SharedPodDiscount)
27	SharedCompartmentDiscount	40%		Discount for shared compartment. Set by Transit X per year. 25% minimum and 40% maximum. Maximum yearly change is one percentage point.
28	SharedCompartmentRate	0.25	USD/km	Rate for shared compartment BaseRate x (1 - SharedCompartmentDiscount)
29	SingleOccupancyMaxDistance	0.29	USD/km	Rate for 500 km in single-passenger pod. Rate for a Senior taking a 500 km trip in a shared compartment.
30	Senior + SharedCompartmentRate	0.12	USD/km	BaseRate x (1 - SeniorDiscountAmount) x (1 - SharedCompartmentDiscount) x (1 - MaxDistanceDiscount)
31	50PctIncomeAtDest	25%		% Higher fare rate if Destination has 50% higher median income than First (IncomeDest / IncomeFirst - 1) / 2
32	DistanceBase	531,176,193	km	Passenger distance under base fare. Audited value from operational data.
33	PercentBase	74%		Percent of passenger distance under base fare: DistanceBase / PassengerTravel
34	BaseRevenue	183,727,426	USD	Annual revenue from all travel under base rate. Audited value from operational data.
35	AverageDiscount	18%		Average fare discount from Base Rate: 1 - (BaseRevenue / (DIstanceDase x BaseRate))
36	MarketFactor	1.0		Market rate factor. Negotiated value for setting ratio of AverageDiscount
37	MarketRateCap	18%		Cap on passenger travel distance at market rate: AverageDiscount x MarketFactor
38	MarketTravelCap	95,860,464	km	Cap on passenger travel distance at market rate: DistanceBase x MarketRateCap

# **Project Summary**

Project Description	A fully-automated, solar-powered, micro- rail network. A transportation utility.					
Project type	<b>Privately-funded Public Transit</b> Design, Build, Finance, Own, Operate, Maintain (DBFOOM)					
Project cost	US\$1.16 billion					
Cost to Gov't	\$0					
Structure	Privately financed equity and debt					
Debt term	10 years @ 7%					
Equity terms	<ul><li>A waterfall profit distribution per year with:</li><li>1. 90% until capital payback,</li><li>2. then 50% until Target% is reached</li><li>3. then 10%</li></ul>					
Taxes & Fees	\$23,291,493 per year					
Benefits to society and environment	Extremely high					
Estimated return	13% average IRR over 12 yrs					

# **Financials**

(US\$ in millions)

	Year 1	Total Years 1-12
Gross Revenues	156	4,530
Taxes and fees	8	227
Debt service	\$57	\$626

# ESG (Environmental, Social, Governance) Benefits

Clean energy	yes	Resiliency	yes
Energy security	yes	Sustainable	yes
Emissions-free	yes	Equitable	yes
GHG-free	yes	Recyclable materials	yes
Lowers pollution	yes	Affordable housing	yes
Clean water	yes	Improved Health	yes
Improved Safety	yes	Econ. Development	yes
New infrastructure	yes	Access to Food	yes
Equitable transport	yes	New job creation	yes

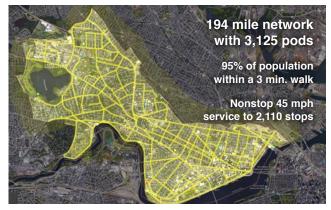




Transit X presents a preliminary proposal for a privately-financed, solarpowered public transit network — a fleet of fully-autonomous, shared, electric, 4-passenger vehicles (pods) on a local and regional podway

# Cambridge, MA

High capacity · High speed · Nonstop · 24/7 Solar powered · Zero Wait · Door-to-door · Resilient



#### About Transit X

Transit X finances, designs, builds, and operates solar-electric micro-rail public transit podways to supplant buses, trains, cars, and trucks. Transit X offers its service to governments and commercial developers. Maiden Flight was on Oct 29, 2018 and pilot projects started in 2018. First pilots will break ground in 2019 and begin operations in 2020. Transit X is a privately held company founded in 2015, based in Boston, Massachusetts.

#### Status

	Now	Prior to close
Project financing	Letter of intent	Yes
Outdoor test system	Dec, 2019	Yes
Rider-Revenue study	Preliminary	Yes
Environmental study	Per region	Yes
Air rights	Per project	Yes
Permitting	Per project	Yes
Safety certification	In process	Yes
Construction firm	Per project	Yes
Design and major subs	Per project	Yes
<b>Operations &amp; Maint</b>	Yes	Yes
Utility relocation	Per project	Agreements

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

# 12-year Pro Forma



# **Model Inputs and Assumptions**

Route length (km)	313
Starting number of pods	1,031
Projected revenue growth	15%
Project Cost (Privately funded)	\$1,161,733,936
% Debt financed	70%
Debt	\$813,213,755
Equity	\$348,520,181
Debt payment (per year)	\$56,924,963

#### Travel per year per pod (km) 168,200

- Revenue per vehicle-km (US\$) 0.90
  - OPEX as % of project cost 5%
    - Debt Interest rate 7%
      - Debt term (yrs) 10
- Profit share when below capital return 90%
  - Profit share when below Target IRR 50%
  - Profit share when above Target IRR 10%

#### Pro Forma

Year	s 0	1	2	3	4	5	6	7	8	9	10	11	12
Revenue	0	156, 185, 558	179,613,392	206,555,400	237,538,710	273,169,517	314,144,945	361,266,686	415,456,689	477,775,193	549,441,471	631,857,692	726,636,346
5% RoW+tax+fee	0%	7,809,278	8,980,670	10,327,770	11,876,936	13,658,476	15,707,247	18,063,334	20,772,834	23,888,760	27,472,074	31,592,885	36,331,817
Debt service	0	\$56,924,963	\$56,924,963	\$56,924,963	\$56,924,963	\$56,924,963	\$56,924,963	\$56,924,963	\$56,924,963	\$56,924,963	\$56,924,963	\$56,924,963	\$56,924,963

Investor share	0	27,025,343	37,995,527	50,611,239	65,119,308	81,803,587	100,990,508	55,495,251	58,314,663	61,556,986	65,285,658	69,573,630	74,504,798
Investor share (%)		90%	<b>90</b> %	<b>90</b> %	<b>90</b> %	90%	90%	41%	35%	31%	28%	25%	23%
Share / Orig Capital	0%	8%	11%	15%	19%	23%	<b>29</b> %	16%	17%	18%	19%	20%	21%

#### **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 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.