



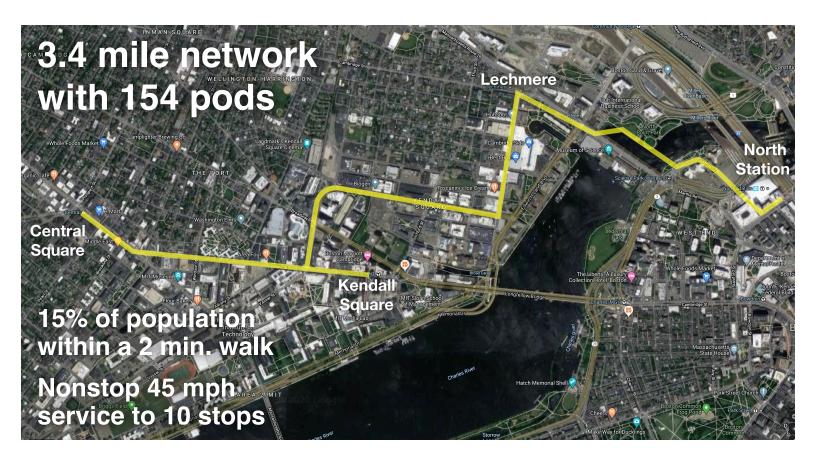
Transit X presents a preliminary proposal for a privately-financed public transit system — a fleet of automated electric vehicles (pods) for passengers and freight on a local and inter-city micro-guideway providing equitable transportation for

# Kendall Square, Cambridge, MA

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

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

A companion Transit X Handbook is available at <a href="mailto:transitx.com/transitxhandbook.pdf">transitx.com/transitxhandbook.pdf</a>





Transit X proposes to finance, build and operate a sustainable microguideway to carry passengers and freight for Kendall Square that makes the Transit X service convenient to 15% 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, accessibility, 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 & High Speed**

A single track carries 12,000 pods per hour (20,000 to 50,000 passengers per hour). Two landing areas fit in a single car space and provide 2,000 boardings per hour. For urban commutes, pods trips are 3 times faster than car trips and the high-speed podway provides faster door-to-door trips than air travel for distances of 1,000 miles or less.

### **Zero Footprint and Minimal Disruption**

Transit X features stops that don't interfere with pedestrians or other forms of transportation. We use space alongside highway and roads and integrate utility lines and poles. Non-stop interchanges fit above existing intersections. Factory-built infrastructure enables fast installation with minimal disruption. Multiple options for long crossings using bridges or underground tunnels. Posts are typically spaced at 23 m (25 yds). Multiple options for pods to traverse any grade or slope.

### Low-cost Infrastructure & equitable fares

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 typically financed by impact investors, private wealth funds, commercial banks, sovereign wealth funds, and governments.

## 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 project groundbreaking will be in 2020.

## **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 55 kg (121 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 their negative impacts. 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. We welcome labor unions.

#### **Revenue Generator for Government**

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\$2 million per year average over the first 10 years.

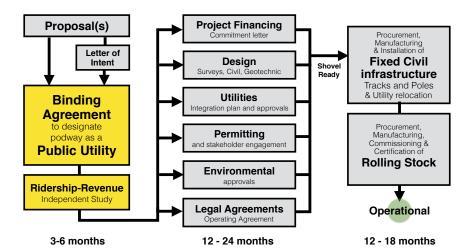
## **Short and Long Term Solution**

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 are re-invested in the community and 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:

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 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.

We look to a commitment for Transit X to build and operate podways along public rights-of-way, similar to other public utilities.

#### Other Resources

The links below provide general information about Transit X:

- One minute video overview (transitx.com/video)
- 7 minute video presentation (<a href="https://vimeo.com/36606646/eac953c0cc">https://vimeo.com/36606646/eac953c0cc</a>)
- Transit X Handbook (transitx.com/transitxhandbook.pdf)
- Company profile (transitx.com/about.pdf)
- Other proposals (<u>transitx.com/proposals</u>)
- The process and templates for agreements (transitx.com/process)

#### 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 Kendall Square through better transportation.

Sincerely,



Email: hello@transitx.com

Telephone: +1 508-596-7024 (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**



11	al ISIUA.			
1	Transit X network length	5.5	km	3.4 miles
2	People (resident-equivalent) in region	132,781	resident-equivalent po	pulation
3	Route density ratio (route length to service area)	0.46		
4	Number of stops	10		
5	Triple-speed route length	0	km	
6	Water crossing route length	0	km	
7	Cost of fixed infrastructure	\$30,490,714		
8	per person	\$230		
9	Mode share of travel on Transit X (4% after first year)		after 10 years	
10	Distance traveled by passengers on Transit X, per year	35,380,122		21,975,231 miles
11	per day	96,932		60,206 miles
12	Daily potential energy generation with standard panels on tracks		MWh	
13	Sustainable energy use per day	0.7	MWh	2.0% of max capacity
14	Energy storage capital cost for 1 day(s) of supply at \$250 per kWh	\$164,305		
15	Size (rated power) of solar installation	153	KW	
16	Cost to generate sustainable energy (at \$1,000 per kW)	\$152,793		
17	Cost of buying sustainable energy at \$0.15 per kWh		per day	2% of OPEX
18	Daily passengers riding Transit X		customers	13% of the pop.
19	Distance per passenger per day	-	km	3.4 miles
20	Average distance per trip (assuming 3 trips per day)		km	1.1 miles
21	Single passenger fare for shared 2 km trip	\$0.78		40.044
22	Passenger distance traveled during peak hour	19,386		12,041 miles
23	Breakeven	5,252	of people convenient	0% of expected and 26% to Transit X)
24	Boarding capacity	3,600	passengers per hour	(20% of customers)
25	Number of pods for peak demand	154	pods at 13% mo	de share
26	Number of customers per pod		and 862 people pe	
27	Distance per pod per year	168,231		pou
28	Two-layer pod garage area (4% of route with side-parking)	169		0.2% of car parking
29	Cost of pods	\$1,540,000	is \$6 per person	
30	Capital cost of energy generation and storage		is \$5 per person	
31 <b>P</b> I	roject Finances			
32	Total Project Cost	\$32,664,911		
33	Project cost per km	\$5,977,892	per km	US\$9.6M per mi.
34	Equity financing	\$9,799,473		
35	Debt financing	\$22,865,438		
36				
37				
38		*		
39	Debt service (per year)	\$3,887,124 \$1,071,507		
40 41	Yearly fees and taxes (US\$15 per capita)	\$1,971,597		
42				
43				
44	Project costs — per person	\$246		
45	Number of motor vehicles displaced		motor vehicles	
46	Yearly cost of cars displaced — per person	\$240		
	Operating costs per passenger-km	\$0.05		
47	Full costs per passenger-km	\$0.21		
48	Breakeven revenue distance per day	28,779	km	17,875 miles
		-,		





## Impact of proposed network

1	Reduction in GHG emissions (metric tons CO2-eq)	3,494 MTCO2-eq annually
2	Estimated cost to maintain public roadways	\$12,021,429 annually
3	Reduced waste products	567 metric tons annually
4	Travel time saved (non-stop travel and congestion)	97 hrs/person annually
5	Cost savings from reduced car ownership	-\$186 per person annually
6	Increase in household income (from time savings and car costs)	2%
7	Reported injuries avoided	22 annually
8	Lives saved (from safety)	0 annually
9	Land freed from parking (20 acres)	81,374 m <sup>2</sup>
12	Temperature reduction (from heat island effect & GHG reductions)	0.5 to 2 °C
11	Health care savings (from pollution, injuries)	High

## **Model Inputs**

15	Ratio of road length to track length	4		
16	Walking speed	4.9	km/h	3 mph
17	Width of convenient swath along track	0.33	km	0 mile
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	10,000	lem	6,211 miles
22	in a developed county for trips under 1600 km)			0,2111111165
23	Average distance per day per person		km	
24	Mode share % of people convenient to Transit X		at 5 min walk.	
25	Percentage of daily demand during peak hour	20%		
26	Maximum capacity per track	23,598	• •	
27	Average dwell time during peak hour		seconds	
28	% of pods traveling on route with highest demand	18%		
29	Average speed of pod		km/h	45 mph
30	Average # of trips for a daily customer		per day	
31	Average passengers per pod during peak hours		passengers	
32	Average passengers per pod		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	\$0.71		
39	(per mile)	\$1.15		
40	O&M as % of project cost	5%		
41	Percentage debt financed	70%		
42	Length of loan/debt		years	
43	Interest rate for debt	7%		
44	kg CO2 emissions per liter of gasoline	2.37		
45	Monetary value of 1 hour personal time (USD)	\$13.75		
46	Est. roadway maintenance per year per km	\$100,000	2	0.47 (
47	Area of one parking lot space		m <sup>2</sup>	247 sf
48	Commercial income of land (annual)		per m <sup>2</sup>	
49	Distance from roadway that is convenient	0.10	кm	
50	Stops per km	10.0		
51	Boarding capacity per stop	360 2.0	ppn	
52	Solar panel area per meter of track		may IdMh	
53	Cost of sustainable energy and storage		per kWh	
54	Global Horizontal Irradiance (GHI)  Cost to generate sustainable energy		kWh/m²/day	
55	Storage per column		per kW kWh	
56	Typical span	23		44
57	Energy storage cost		per kWh	17
58	Energy storage cost Energy storage capacity		days	
59	Area of parked pod	2.20	•	
60	Distance discount at max distance	40%		
61	Max distance discount	500	km	
62	Max usage discount at 10,000 km per capita	50%		
63	Shared Pod Discount	20%		
65	Shared Pod Compartment Discount	40%		
66	Mode share starting discount	67%		
ОО	wode share starting discount	01/0		

## **Model Inputs (continued)**

68	Name of region or project	Kendall Square, Cam
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	20%
75	% of land area served by roads	7%
76	Coverage: % of pop. convenient (2 min walk) to Transit X	15%
77	Annual median household income (US\$)	\$55,000
78	Convenient walk time to stop (min)	2
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	1.5
85	EPC costs & contingency	100%
86	Triple-speed (km/h)	242
87	Daily Passengers Adjustment	100%
88	Number of Stops Adjustment	20%
89	Mode Share Adjustment	100%

## Pod & Car

		Pod	Car
90	Service life (years)	20	12
91	Full cost of vehicle per year	\$200	\$9,000
92	Public cost to maintain infrastructure per year per km	\$0	\$100,000
93	Energy consumption (MPGe)	3564	24
94	Energy consumption (liters/100km)	0.07	9.8
95	Energy consumption (Watt-hours/km)	9	1375
96	mass of CO2 per vehicle per km (kg)	0	0.09875
97	Vehicle mass (kg)	45	1950
98	Average speed of urban travel (km/h)	72	16
99	Typical travel time (in minutes) for 2 km trip	2	7
100	Fare/cost per km	\$0.71	\$0.62
101	Number of deaths per 100M passenger-km	0.00001	1
102	Number of injuries per 100M passenger-km	0.0006	62
103	Volume to park (cubic meters)	5.7	70.9

## **Taxes and Fees**

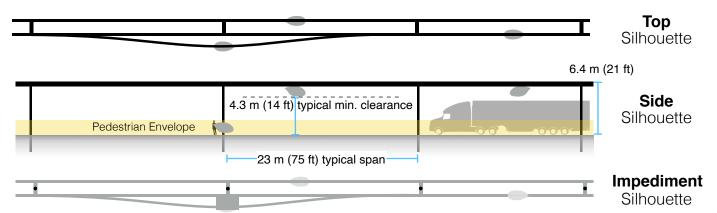
## 5% of gross revenue is paid for air rights and local taxes.

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

1	Air-rights and Local Taxes		(for calculating m	ninimums)
2	Total commercial land (estimated)	1,190,000	m <sup>2</sup>	294 acres
3	Total commercial gov't revenue (US\$)	\$1,309,000		
4	TXCR (Transit X Commercial Rate)	\$1.10	per m <sup>2</sup> (estimated)	
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 (estimated)	
7	Private Easement Fees	For exam	ole	
8	4% of gross revenue	\$72.16	per route-meter	\$22.01 per route-foot
9	Minimum per year	\$1.63	per route-meter	\$0.50 per route-foot
10	Transit X payment to Govern	nment		
10	Transit X payment to Govern		estimated	
	• •			
11	% of route on government easements	98%		
11	% of route on government easements  Total air-rights and local taxes	98% <b>\$1,940,052</b>	per year	
11 12 13	% of route on government easements  Total air-rights and local taxes  per resident	98% <b>\$1,940,052</b> \$15	per year	
11 12 13 14	% of route on government easements  Total air-rights and local taxes  per resident	\$1,940,052 \$15 \$8,933	per year	
11 12 13 14 15	% of route on government easements  Total air-rights and local taxes  per resident  with a minimum of	\$1,940,052 \$15 \$8,933	per year	
11 12 13 14 15	% of route on government easements  Total air-rights and local taxes  per resident  with a minimum of  Other financial benefits to G	98% <b>\$1,940,052</b> \$1,933 \$8,933 <b>Government</b>	per year	
11 12 13 14 15 16	% of route on government easements  Total air-rights and local taxes  per resident  with a minimum of  Other financial benefits to G  Less road maintenance from lower VMT	\$1,940,052 \$15 \$8,933 Covernment	per year	

## Footprint calculations for minimum fee

## Yearly fees and taxes



Pod landing area: 1.5m x 2.5m with 3m minimum spacing

1 <b>F</b>	ootprint Calculations	Metric		Imperial	
2 Tr	ack width	0.30	m	11.8	inches
<sup>∃</sup> Tr	rack height	0.60	m	23.6	inches
Po	ost diameter	0.3	m	11.8	inches
Po	ost cross section	0.07		0.8	sf
St	top landing area	<u>3.75</u>	m <sup>2</sup>	40.4	sf
	.width	<u>1.5</u>		59.1	inches
	.length	<u>2.5</u>	m	98.4	inches
	amp length	21		68.9	
<ul> <li>Ty</li> </ul>	pical Span	<u>23</u>		75.5	feet
1 N	umber of posts per unit length	<u>43.5</u>	poles per km	70.0	poles per mile
2 P	ost height	<u>6</u>	m	19.7	feet
3					
4 <b>S</b>	ingle track	1022.1	$m^2$	10998	sf
	.Area of Side Silhouette	678.3	m <sup>2</sup>	7298	
	.Area of Top Silhouette	313.1	m <sup>2</sup>	3369	
	.Impediment Area (adjusted)	30.7		331	
8	, , ,				
9 <b>D</b>	oual track	1322.1	m²	14226	sf
0	.Area of Side Silhouette	678.3	m <sup>2</sup>	7298	sf
	.Area of Top Silhouette	613.1		6597	sf
2	.Impediment Area (adjusted)	30.7	m <sup>2</sup>	331	sf
3	, , ,				
4 <b>S</b>	top	82.1	m <sup>2</sup>	883	sf
5	.Area of Side Silhouette	25.2	m <sup>2</sup>	271	sf
6	.Area of Top Silhouette	19.4	m <sup>2</sup>	208	sf
7	.Impediment Area (adjusted)	37.5	m²	404	sf
8					
9 St	tops with dedicated landing areas	2	stops per km	3.2	stops per mile
	6 of dual track	100%	otopo por tan	0.2	otopo por rimo
1		.00,0			
2 <b>A</b>	verage area per unit length	1,486	m² per route-km	25,793	sf per route-mile
33					
4 <b>C</b>	ontract values				
5 <b>%</b>	gross revenue for government on private prop.	1%			
6 %	gross revenue for private easement	4%			
	gross revenue for government easement	5%			
	npediment Factor	10			



## **Fair Fare Formula**

## Summary

Faster travel saves a household 295 hours per year.\* At 0.69 USD per mile, a typical commute on Transit X is 17% less than public transit and 74% less than a Taxi.\*

**Trip Length** 

16.55

8 to 30 minutes

All prices in USD		1 mile	6 mile	25 mile
	Transit X	<b>0.85</b> to 1.42 2 min., 3.6x faster	<b>4.22</b> to 7.08 8 min., 3.6x faster	<b>16.20</b> to 27.62 33 min., 3.4x faster
Public transit average		4.78	7.61	11.16
səpou	Taxi	<b>6.63</b> 2 to 6 minutes	<b>28.89</b> 8 to 30 minutes	<b>112.33</b> 30 to 120 minutes
Common public modes	Uber/Lyft	<b>5.05</b> 2 to 6 minutes	<b>20.80</b> 8 to 30 minutes	<b>79.85</b> 30 to 120 minutes
non pı	Public Bus  3.85 3 to 12 minutes		<b>3.85</b> 15 to 60 minutes	<b>5.91</b> 60 to 240 minutes
Comr	Train	<b>5.78</b> 2 to 12 minutes	<b>6.80</b> 8 to 60 minutes	<b>10.66</b> 30 to 240 minutes

	Avg. Speed	Low Speed	High speed				Min Dist	Max Dist.	Time cost	Mode 6%	shar 70%	
Travel mode	km/h	km/h	km/h	Base	Includ es km	Over per-km	km	km	per min	2	10	40
Taxi	30	20	80	3.85	1	1.93	0.5	100	1.71	5%	4%	1%
Uber/Lyft	30	20	80	3.08	1	1.54	0.5	100	0.86	10%	10%	2%
Public Bus	15	10	40	3.85	20	0.10	0.5	50	0	50%	50%	40%
Train	30	10	80	5.78	2	0.13	2	100	0	35%	36%	57%
Transit X	72	72	72	0	0	0.43	0.1	50	0	-	-	-
Personal car	30	20	80	2.57	0	1.28	0.1	400	0.23	-	-	-

5.36

2 to 6 minutes

**58.50** 

30 to 120 minutes

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.

Personal car

<sup>\*</sup> All numbers on mode shares, speeds, and costs are rough estimates.



## **Fair Fare Formula**

## Fare rates are updated annually using this 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 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	PercentIncomeForTr ansport	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 / AllTravel
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	1.50	LIOD#	Regional Fare Factor. Negotiated upfront to make network financially viable.
11 13	AdjustedRate Population	0.72 132,781	USD/km	Regional adjusted rate: NominalRate * RegionalFactor  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	35,380,122	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	1%		Percent of Total Travel Per Capita on Transit X:  PassengerTravel / (Population x AllTravel)
16	BaseRate	0.71	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	1.57	USD/km	Base rate for high-speed travel or water crossings:  BaseRate * SpecialRateFactor
19	DistanceDiscount	40%		Distance discount at max distance. Global constant.
20	MaxDistanceDiscou nt	500	km	Max distance discount. Global constant.
21	DistanceDiscountPe rKm	0.000571	USD/km	Discount amount per km:  BaseRate x DistanceDiscount / MaxDistanceDiscount
22	SeniorDiscount	20%		Senior discount set according to local regulations
23	StudentDiscount	20%		Student discount set according to local regulations
2.4	DisabilityDiscount	20% <b>0.57</b>	LICD/Irms	Disability discount set according to local regulations
24 25	DiscountBaseRate SharedPodDiscount	20%	USD/KM	Discounted base rate: BaseRate x (1 - SeniorDiscount)  Discount for requesting a shared pod. 15% minimum and 30% maximum.
26	SharedPodRate	0.57	USD/km	
27	SharedCompartment Discount	40%	USD/KIII	Discount for requesting a shared compartment. 25% minimum and 40% maximum. At least 10 percentage points higher than SharedPodDiscount.
28	SharedCompartment Rate	0.43	USD/km	Rate for shared compartment
29	SingleOccupancyMa xDistance	0.49	USD/km	BaseRate x (1 - SharedCompartmentDiscount)  Rate for 500 km in single–passenger pod.
30	Senior + SharedCompartment Rate	0.21	USD/km	Rate for a Senior taking a 500 km trip in a shared compartment.  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	26,181,290	km	Passenger distance under base fare. Audited value from operational data.
33	PercentBase	74%	LIOP	Percent of passenger distance under base fare:  DistanceBase / PassengerTravel
34	BaseRevenue	15,303,471	USD	Annual revenue from all travel under base rate. Audited value from operational data.
35 36	AverageDiscount MarketFactor	18% 1.0		Average fare discount from Base Rate:  1 - (BaseRevenue / (DIstanceDase x BaseRate))  Market rate factor. Negotiated value for setting ratio of AverageDiscount
				Cap on passenger travel distance at market rate:
37	MarketRateCap	18%	1	AverageDiscount x MarketFactor Cap on passenger travel distance at market rate:
38	MarketTravelCap	4,724,893	km	DistanceBase x MarketRateCap

## **Project Summary**

**Project** A fully-automated, solar-powered, micro-**Description** guideway network providing a sustainable

transportation utility.

**Project type Sustainable Transportation Infrastructure** 

Design, Build, Finance, Own, Operate, Maintain

(DBFOOM)

Project equity US\$10 million (30% of total)

Cost to Gov't \$0

Structure Privately financed equity and debt

Debt term 10 years @ 7%

Equity terms A waterfall profit distribution per year with:

1. 90% until capital payback,

2. then 50% until Target% is reached

3. then 10%

Taxes & Fees \$1,940,052 per year

Benefits to

society and Extremely high environment

Estimated return 39% average IRR at 5 yrs

46% average IRR at 10 yrs

Financials (US\$ in millions)	Year 1	Total Years 1-12
Gross Revenues	13	379
Taxes and fees	1	19
Debt service	\$2	\$18

## ESG (Environmental, Social, Governance) Benefits

Clean Energy	yes	Improve Resiliency	yes
Energy security	yes	Sustainable	yes
Zero Emissions	yes	Equitable	yes
Zero GHG	yes	Recyclable Materials	yes
Lowers Pollution	yes	Affordable Housing	yes
Clean Water	yes	Improved Health	yes
Improved Safety	yes	<b>Economic Development</b>	yes
Add Green Space	yes	Access to Food	yes
Accessible	yes	Add Quality Jobs	yes

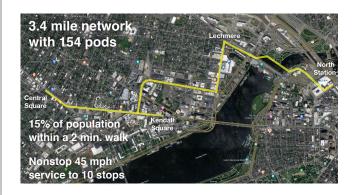




Transit X presents a preliminary proposal for a sustainable micro-guideway network
— a fleet of automated electric vehicles (pods) for passengers and freight on a
local and regional podway providing equitable public transportation for

## Kendall Square, 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-guideway 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 2019. First pilots will break ground in 2020 and begin operations in 2021. Transit X is a privately held company founded in 2015, based in Boston, Massachusetts.

### Status

	Now	Prior to close
Project financing	Available	Yes
Test Track	2018	Yes
Rider-Revenue study	Internal model	Yes
Environmental study	Per region	Yes
Air rights	Per project	Yes
Permitting	Per project	Yes
Safety certification	Per country	Yes
Construction firm	Per project	Yes
Design and major subs	Per project	Yes
Operations & Maint	Partners	Yes
<b>Utility relocation</b>	Per project	Agreements

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, Transit X, <u>mike@transitx.com</u>, 508-596-7024



## **Model Inputs and Assumptions**

Route length (km, miles) 5.5

Starting number of pods 51

Projected revenue growth 15%

Project Cost (Privately funded) \$32,664,911

% Debt financed 70%

Debt \$22,865,438

**Equity** \$9,799,473

Debt payment (per year) \$1,600,581

3.4

Travel per year per pod (km) 168,231

Revenue per vehicle-km (US\$) 1.52

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**

	Years	0	1	2	3	4	5	6	7	8	9	10	11	12
Revenue		0	13,058,631	15,017,425	17,270,039	19,860,545	22,839,627	26,265,571	30,205,407	34,736,218	39,946,650	45,938,648	52,829,445	60,753,862
5% RoW÷tax÷fee	•	0%	652,932	750,871	863,502	993,027	1,141,981	1,313,279	1,510,270	1,736,811	1,997,333	2,296,932	2,641,472	3,037,693
<b>Debt service</b>		0	\$1,600,581	\$1,600,581	\$1,600,581	\$1,600,581	\$1,600,581	\$1,600,581	\$1,600,581	\$1,600,581	\$1,600,581	\$1,600,581	\$1,600,581	\$1,600,581
Investor share		0	7,429,217	4,517,090	2,314,076	2,506,405	2,727,583	2,981,937	3,274,445	3,610,829	3,997,671	4,442,539	4,954,137	5,542,475
Investor share (%)	)		90%	47%	20%	19%	18%	17%	16%	15%	14%	14%	13%	13%
Share / Orig Capita	al	0%	76%	46%	24%	26%	28%	30%	33%	37%	41%	45%	51%	57%
IRR to date		loss	(24%)	16%	27%	34%	39%	42%	43%	45%	46%	46%	47%	47%

#### **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.

# Jobs Report\*

This would create 200 new jobs in manufacturing, construction, and operations. About 1,600 existing transportation jobs would be impacted — of which 0 workers would need significant retraining. Improving the transportation infrastructure will boost the economy overall and lead to 300 new jobs. Lowering the cost of transportation and reducing travel times raises household income by 2%.

1	Annual median household income (US\$)	\$55,000	
2	CAPEX		
3	Average gross CAPEX salary (% of median HH)	125%	
4	Average gross CAPEX salary	\$68,750	
5	% of CAPEX as salary	15%	
6	Years of CAPEX	2	
7	# of CAPEX jobs	40	
8	% of jobs that are manufacturing vs. construction	75%	
9	Manufacturing jobs	30	
10	Construction jobs	10	
11	Supply chain jobs factor	3	
12	Jobs in supply chain	120	
13	Average gross OPEX salary (% of median HH)	115%	
14	Average gross OPEX salary	\$63,250	
15	% of OPEX as salary	30%	
16	Operations and Maintenance jobs	10	
17	Secondary-effect jobs factor	7%	
18	Secondary effect jobs	340	
19	Job transitioning and training		
20	Expected mode share at 10 years (from page 6, line 9)	13%	
21	% of population with a full-time job	60%	79,669
22	jobs in transportation	10%	7,967
23	jobs impacted with this proposed network	20%	1,593
24	jobs requiring significant retraining	20%	319
25	Jobs needing retraining with this proposed network (over 10 years)	0.1%	40
26	Training cost per person as % of salary (from line 13)	100%	\$63,250
27	Number of years that training is divided across	10	
28	Ratio (as %) of training costs vs. gov't revenue from Transit X	13%	\$253,000

<sup>\*</sup> Numbers are approximations based on a universal model. A regional study could analyze data based on local conditions.