



Transit X, LLC presents a preliminary proposal for a privately-funded fleet of fully-autonomous shared electric vehicles on local and regional podway network for

## **Manchester-by-the-Sea, Massachusetts**

**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](http://transitx.com/transitxhandbook.pdf)



**Transit X proposes to build and operate a privately-financed pod network to carry passengers and freight for Manchester-by-the-Sea, Massachusetts 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](http://transitx.com) for more details. This 3-minute video ([transitx.com/video](http://transitx.com/video)) describes our innovative solution.

### Major benefits

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



The Transit X Handbook ([transitx.com/transitxhandbook.pdf](http://transitx.com/transitxhandbook.pdf)) 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

We have reduced or eliminated many costs of transportation including the cost of materials, land, construction, fuel, debt service, and labor. Transit X does not require public funding because revenue from fares more than covers our costs. Our business model appeals to investment banks and private equity firms that finance green infrastructure projects.

### 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. An in-depth (1000+ hours) technical assessment and feasibility analysis has been completed by Altran, 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.

### **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 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. The energy generated from solar panels on the track and stored within the poles is sufficient in most cases, but sustainable power contracts may be used to buy and sell power to the grid. Transit X makes it possible to reduce the amount of impervious surfaces and increase green space by reducing the need for parking and roads. By replacing cars, Transit X has a negative carbon footprint.

### **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 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. These partnerships enable Transit X to de-risk all of the major elements of the project, and provide performance guarantees.

We would work with regional urban planning and construction firms who are familiar with permitting and applicable codes.

### **Jobs and Workforce Development**

Many jobs will be created to build a new transportation infrastructure, and many new types of job will be created as transportation becomes more efficient. 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 displaced by the transition to automated vehicles.

## Revenue Generator

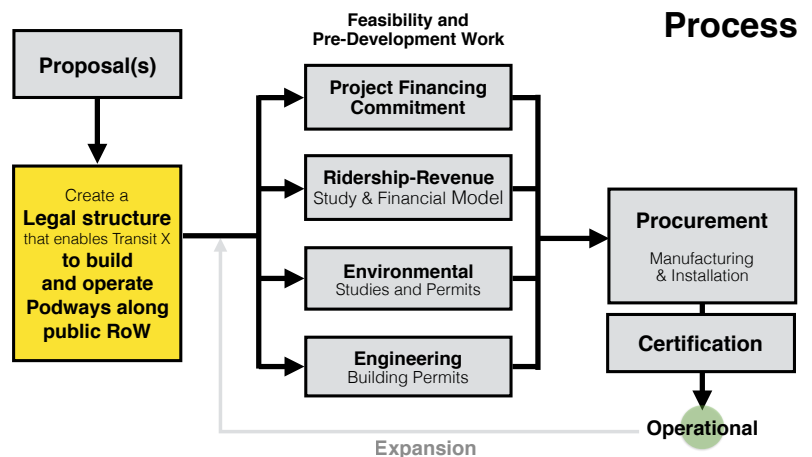
Not only does Transit X not require public financing, but the local municipality and right-of-ways owners receive 5% of gross revenue, which would be US\$1 million per year average over the first 10 years. For specifics, please see the "Taxes and Fees" section of this proposal. These fees and taxes paid by Transit X enables lower taxes or more spending on public services.

## 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 general process for working with a municipality or rights-of-way owner. 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 an operating agreement. Example documents and a sample project schedule can be viewed at [transitx.com/process](http://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 to move forward, we need a memorandum of understanding (example at [transitx.com/process/mou.html](http://transitx.com/process/mou.html)) stating that you intend to pass an ordinance that enables our use of air rights along with an operating agreement.

In parallel, we could refine the routes and meet with project stakeholders.

### **Other Resources**

The links below provide general information about Transit X:

- 2 minute video overview ([transitx.com/video](http://transitx.com/video))
- Transit X Handbook ([transitx.com/transitxhandbook.pdf](http://transitx.com/transitxhandbook.pdf))
- Letters of Project Financing, Due Diligence, Contracts ([transitx.com/letters.pdf](http://transitx.com/letters.pdf))
- Example Resolution ([transitx.com/process/resolution.html](http://transitx.com/process/resolution.html))
- Operating Agreement ([transitx.com/process/operating\\_agreement.html](http://transitx.com/process/operating_agreement.html))
- General Q & A ([transitx.com/QandA.html](http://transitx.com/QandA.html))

### **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 Manchester-by-the-Sea through better transportation.

Sincerely,



Mike Stanley  
CEO, Transit X

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1	<b>Transit X network length</b>	<b>7 km</b>	<b>4.3 miles</b>
2	People (resident-equivalent) in region	5,136	resident-equivalent population
3	Route density ratio (route length to service area)	1.16	
4	Number of stops	30	
5	Triple-speed route length	0 km	
6	Water crossing route length	0 km	
7	<b>Cost of fixed infrastructure</b>	<b>\$25,314,980</b>	
8	...per person	\$4,929	
9	Mode share of travel on Transit X (27% after first year)	81%	after 10 years
10	Distance traveled on Transit X, per year	20,736,600 km	<b>12,879,876 miles</b>
11	...per day	56,813 km	<b>35,287 miles</b>
12	Daily potential energy generation with standard panels on tracks	54 MWh	
13	Sustainable energy use per day	1 MWh	3% of max capacity
14	Energy storage capital cost for 1 day(s) of supply at \$800 per kWh	\$1,195,268	
15	Size (rated power) of solar installation	347 KW	
16	Cost to generate sustainable energy (at \$2,000 per kW)	\$694,702	
17	Cost of buying sustainable energy at \$0.15 per kWh	\$224 per day	6% of OPEX
18	Daily passengers riding Transit X	4,147 customers	81% of the pop.
19	Distance per passenger per day	14 km	<b>8.5 miles</b>
20	Average distance per trip (assuming 3 trips per day)	5 km	<b>2.8 miles</b>
21	<b>Single passenger fare for shared 5 km trip</b>	<b>\$1.52</b>	
22	Passenger distance traveled during peak hour	11,363 km	<b>7,057 miles</b>
23	<b>Breakeven</b>	<b>1,927</b>	<b>customers per day</b>
24			(39% of people convenient to Transit X)
25	<b>Number of pods for peak demand</b>	<b>117</b>	<b>pods at 81% mode share</b>
26	Number of customers per pod	35.4	and 44 people per pod
27	Distance per pod per year	167,797 km	
28	Two-layer pod garage area (3% of route with side-parking)	129 m <sup>2</sup>	0.3% of car parking
29	Cost of pods	\$760,500	is \$114 per person
30	Capital cost of energy generation and storage	\$2,456,962	is \$478 per person
31	<b>Project Finances</b>		
32	Total Project Cost (privately financed)	\$28,532,441	
33	Project cost	\$4,087,981	per km US\$6.6M per mi.
34	Equity	\$8,559,732	
35	Private debt financing	\$19,972,709	
36			
37			
38			
39	Debt service (per year)	\$2,995,906	
40	<b>Yearly fees and taxes (US\$181 per capita)</b>	<b>\$927,937</b>	
41	OPEX + Debt service + Tax + Fees	\$5,350,466	
42			
43			
44	Project costs — per person	\$5,555	
45	Number of motor vehicles displaced	2,074	motor vehicles
46	Yearly cost of cars displaced — per person	\$3,634	
47	Operating costs per passenger-km	\$0.07	
47	Full costs per passenger-km	\$0.26	
48	Breakeven revenue distance per day	26,399 km	<b>16,397 miles</b>
49	Number of tracks in one direction needed to satisfy peak demand	<b>0.00</b>	



### Impact of proposed network

1	<b>Reduction in GHG emissions (metric tons CO2-eq)</b>	2,048 MTCO2-eq annually
2	<b>Estimated cost to maintain public roadways</b>	\$1,236,490 annually
3	<b>Reduced waste products</b>	332 metric tons annually
4	<b>Travel time saved</b>	243 hrs/person annually
5	<b>Cost savings from reduced car ownership</b>	\$324 per person annually
6	<b>Increase in household income from time savings and car costs</b>	7%
7	<b>Reported injuries avoided</b>	13 annually
8	<b>Lives saved</b>	0 annually
9	<b>Land freed from parking (12 acres)</b>	47,694 m <sup>2</sup>
11	<b>Health care savings</b>	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	0.82 km	1 miles
18	Fixed cost per km. Solar+storage not included.	\$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	6,211 miles
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	18,252 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	45 mph
30	Average # of trips for a daily customer	3 per day	
31	Average passengers per pod during peak hours	1.7 passengers	
32	Average passengers per pod	1.1 passengers	
33	Average discount per passenger	15%	
34	Maximum passengers per pod	5 passengers	
35	Empty pods: Percentage non-revenue	25%	
36	Ex-Factory cost per pod	\$5,000	
37	Worldwide Median Income per Household (US\$)	10,000	
38	Average number of residents per household	2.3	
39	Base fare per km (per mile)	\$0.56 (\$0.89)	
40	O&M as % of project cost	5%	
41	Percentage debt financed	70%	
42	Length of loan/debt	10 years	
43	Interest rate for debt	5%	
44	kg CO2 emissions per liter of gasoline	2.37	
45	Monetary value of 1 hour personal time (USD)	\$18	
46	Eat. roadway maintenance per year per km	\$51,000	
47	Area of one parking lot space	23 m <sup>2</sup>	247 sf
48	Commercial income of land (annual)	\$1 per m <sup>2</sup>	
49	Distance from roadway that is convenient	0.25 km	
50	Stops per km	4.0	
51	Solar panel area per meter of track	2.0	
52	Cost of sustainable energy and storage	\$0.15 per kWh	
53	Global Horizontal Irradiance (GHI)	3.8 kWh/m <sup>2</sup> /day	
54	Cost to generate sustainable energy	\$2,000 per kW	
55	Energy storage cost	\$800 per kWh	
56	Energy storage capacity	1 days	
57	Area of parked pod	2.20 m <sup>2</sup>	
58	Distance discount at max distance	40%	
59	Max distance discount	500 km	
60	Max usage discount at 10,000 km per capita	50%	
61	Shared Pod Discount	20%	
62	Shared Pod Compartment Discount	40%	
63	Mode share starting discount	67%	

### Model Inputs (continued)

64	Name of region or project	Manchester-by-the-Sea
65	Currency name	
66	Equal to US\$1	1
67	Sustainable energy/electricity generation & storage as	CAPEX
68	Land area of region (sq. km)	24
69	Number of residents in region	5,136
70	% travel within region	50%
71	% of land area served by roads	25%
72	Coverage: % of pop. convenient (5 min walk) to Transit X	95%
73	Median household income (US\$)	\$70,000
74	Convenient walk time to stop (min)	5
75	Triple-speed route length (km)	0
76	Water crossing route length (km)	0.0
77	Visitors per year	0
78	Average length of visit (days)	2
79	Solar production ratio	1.57
80	Regional Fare Factor	1.0
81	EPC costs & contingency	30%
82	Triple-speed (km/h)	242

### Pod & Car

		Pod	Car
83	Service life (years)	20	12
84	Full cost of vehicle per year	\$200	\$9,000
85	Public cost to maintain infrastructure (per km)	\$0	\$100,000
86	Energy Efficiency in MPGe	1188	24
87	Energy Efficiency in liters/100km	0.20	9.8
88	Energy used (Watt-hours/km)	28	1375
89	mass of CO2 per vehicle per km (kg)	0	0.09875
90	Vehicle mass (kg)	45	1950
91	Average speed of urban travel (km/h)	72	16
92	Typical travel time (in minutes) for 5 km trip	4	17
93	Fare/cost per km	\$0.56	\$0.62
94	Number of deaths per 100M passenger-km	0.00001	1
95	Number of injuries per 100M passenger-km	0.0006	62
96	Volume to park (cubic meters)	5.7	70.9



**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).

## 1 Municipal rates

2	Total commercial land (estimated)	600,000 m <sup>2</sup>	<b>6,457,800 sq ft. (148.3 acres)</b>
3	Total commercial muni revenue (US\$)	\$840,000	
4	<b>TXCR (Transit X Commercial Rate)</b>	\$1.40 per m <sup>2</sup>	
5	<i>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.</i>		

## 6 Project Revenue

7	Length of Transit X route	7 km	<b>4 miles</b>
8	Estimated gross revenue per unit length	\$2,659,002 per km	
9			

## 10 Government Tax

10		% of gross revenue with minimum.	
11	<b>1% gross revenue</b>	\$26,590 per route-km	
12	<b>Minimum per year</b>	\$2,313 per route-km	<b>\$3,731 per route-mile</b>

## 13 Air Rights Leasing Fee

13		% of gross revenue with minimum. Proportioned based on length.	
14	% of route on municipal land	90%	
15	<b>4% gross revenue</b>	\$106,360 per route-km	
16	<b>Minimum per year</b>	\$2,313 per route-km	<b>\$3,731 per route-mile</b>

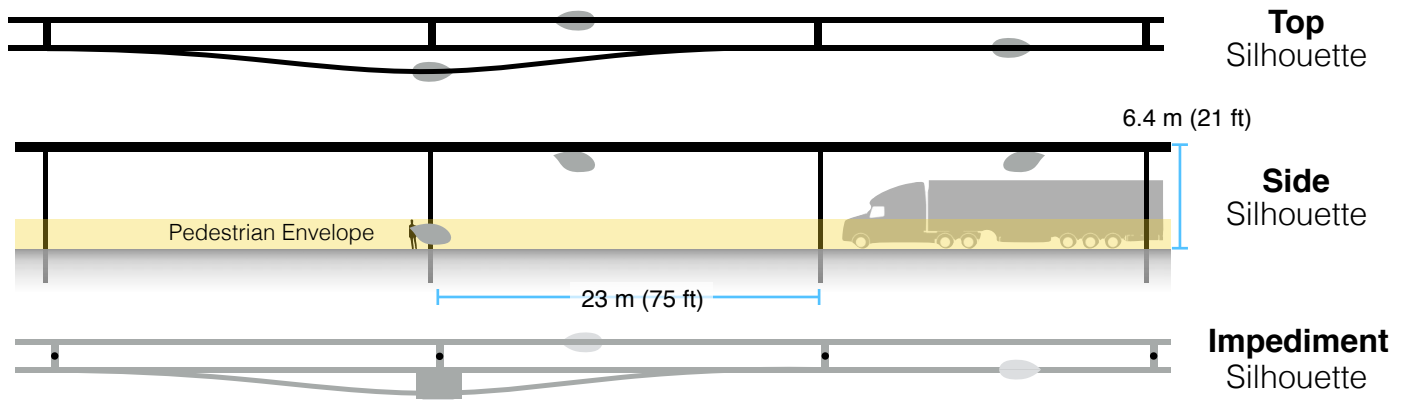
## 17 Taxes, Fees

18	<b>Paid to Municipality</b>	<b>\$853,702</b> per year	
19	...with minimum	\$30,678	
20	<b>Paid to Private land owners</b>	<b>\$74,235</b> if 10% of RoW is over private property	
21	...with minimum	\$1,615	



# Footprint calculations for minimum fee

# Yearly fees and taxes



1	Footprint Calculations	Metric	Imperial
2	Track width	0.41 m	16.1 inches
3	Track height	0.61 m	24.0 inches
4	Pole diameter	0.3 m	11.8 inches
5	Pole cross section	0.07 m <sup>2</sup>	0.8 sf
6	Stop landing area	2 m <sup>2</sup>	21.5 sf
7	...width	2 m	78.7 inches
8	...length	1 m	39.4 inches
9	Ramp length	21 m	68.9 feet
10	Pole span	23 m	75.5 feet
11	Number of poles per unit length	43.5 poles per km	70.0 poles per mile
12	Pole height	6 m	19.7 feet
13			
14	<b>Single track</b>	1126.7 m <sup>2</sup>	12124 sf
15	...Area of Side Silhouette	688.3 m <sup>2</sup>	7406 sf
16	...Area of Top Silhouette	423.1 m <sup>2</sup>	4553 sf
17	...Impediment Area (adjusted)	15.4 m <sup>2</sup>	165 sf
18			
19	<b>Dual track</b>	1536.7 m <sup>2</sup>	16535 sf
20	...Area of Side Silhouette	688.3 m <sup>2</sup>	7406 sf
21	...Area of Top Silhouette	833.1 m <sup>2</sup>	8964 sf
22	...Impediment Area (adjusted)	15.4 m <sup>2</sup>	165 sf
23			
24	<b>Stop</b>	57.8 m <sup>2</sup>	622 sf
25	...Area of Side Silhouette	25.6 m <sup>2</sup>	276 sf
26	...Area of Top Silhouette	22.2 m <sup>2</sup>	239 sf
27	...Impediment Area (adjusted)	10.0 m <sup>2</sup>	108 sf
28			
29	Stops	2 stops per km	3.2 stops per mile
30	% of dual track	100%	
31			
32	<b>Average area per unit length</b>	1,652 m <sup>2</sup> per route-km	<b>28,678 sf per route-mile</b>
33			
34	<b>Contract values</b>		
35	% gross revenue for muni tax/fee	1%	
36	% gross revenue for air rights (RoW)	4%	
37	% gross revenue for RoW+tax+fee	5%	
38	Impediment Factor	5	



# Fair Fare Formula

Summary	<p>The average commute would be 3.5 times faster saving each commuter 295 hours per year.*</p> <p><b>At 0.33 USD per km, a typical commute on Transit X is 17% less than public transit and 74% less than a Taxi.*</b></p>
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All prices in USD		Trip Length		
		1 mile	6 mile	25 mile
Common public modes	Transit X	<b>0.66</b> to 1.11 2 min., 3.6x faster	<b>3.29</b> to 5.51 8 min., 3.6x faster	<b>12.62</b> to 21.50 33 min., 3.4x faster
	Public transit average	<b>3.72</b>	<b>5.92</b>	<b>8.69</b>
	Taxi	<b>5.16</b> 2 to 6 minutes	<b>22.49</b> 8 to 30 minutes	<b>87.45</b> 30 to 120 minutes
	Uber/Lyft	<b>3.93</b> 2 to 6 minutes	<b>16.19</b> 8 to 30 minutes	<b>62.17</b> 30 to 120 minutes
	Public Bus	<b>3.00</b> 3 to 12 minutes	<b>3.00</b> 15 to 60 minutes	<b>4.60</b> 60 to 240 minutes
	Train	<b>4.50</b> 2 to 12 minutes	<b>5.30</b> 8 to 60 minutes	<b>8.30</b> 30 to 240 minutes
Personal car		<b>4.29</b> 2 to 6 minutes	<b>13.45</b> 8 to 30 minutes	<b>47.81</b> 30 to 120 minutes

Travel mode	Avg. Speed	Low Speed	High speed	Base	Includ es km	Over per-km	Min Dist km	Max Dist. km	Time cost per min	Mode share		
	km/h	km/h	km/h							6%	70%	24%
Taxi	30	20	80	3.00	1	1.50	0.5	100	1.33	5%	4%	1%
Uber/Lyft	30	20	80	2.40	1	1.20	0.5	100	0.67	10%	10%	2%
Public Bus	15	10	40	3.00	20	0.08	0.5	50	0	50%	50%	40%
Train	30	10	80	4.50	2	0.10	2	100	0	35%	36%	57%
Transit X	72	72	72	0	0	0.33	0.1	50	0	-	-	-
Personal car	30	20	80	2.00	0	1.00	0.1	400	0.29	-	-	-

\* All numbers on mode shares, speeds, and costs are rough estimates..

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 equal or less than the amount of discounted fares. Transit X Fair Fare is a universal passenger fare formula that applies to all regions and all times.




# Fair Fare Formula

Fare rates are updated annually using this formula

	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	PercentIncomeForTransport	20%		% of median household income for all transportation under 1600 km trips. A global constant.
4	GlobalRate	0.09	USD/km	Global rate: <b>GlobalIncome * PercentIncomeForTransport / AllTravel</b>
5	MedianIncomeOrigin	\$70,000	USD	Median household income at origin. External input. Based on reliable public data source updated annually.
6	MedianIncomeDest	\$70,000	USD	Median household income at destination. External input. Based on reliable public data updated annually.
7	RegionalRate	0.61	USD/km	Regional rate based on median income: <b>MedianIncomeOrigin * PercentIncomeForTransport / AllTravel</b>
8	UnderIncomeRate	0.00	USD/km	Under global income adjustment: <b>if (RegionalRate &lt; GlobalRate, GlobalRate - RegionalRate, 0)</b>
9	NominalRate	0.61	USD/km	Nominal rate: <b>RegionalRate + UnderIncomeRate</b>
10	RegionalFactor	1.00		Regional Fare Factor. Negotiated upfront to make network financially viable.
11	AdjustedRate	0.61	USD/km	Regional adjusted rate: <b>NominalRate * RegionalFactor</b>
13	Population	5,136		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	20,736,600	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	18%		Percent of Total Travel Per Capita on Transit X: <b>PassengerTravel / (Population x AllTravel)</b>
16	BaseRate	<b>0.56</b>	USD/km	<b>Base rate for single-passenger pod (without discounts)</b> <b>(1 - UsageMaxDiscount x min(1, ModeShare)) x AdjustedRate</b>
17	SpecialRateFactor	2.20		Rate factor for water crossings or high-speed links. Global constant.
18	SpecialBaseRate	1.22	USD/km	Base rate for high-speed travel or water crossings: <b>BaseRate * SpecialRateFactor</b>
19	DistanceDiscount	40%		Distance discount at max distance. Global constant.
20	MaxDistanceDiscount	500	km	Max distance discount. Global constant.
21	DistanceDiscountPerKm	0.000444	USD/km	Discount amount per km: <b>BaseRate x DistanceDiscount / MaxDistanceDiscount</b>
22	SeniorDiscount	20%		Senior discount set according to local regulations
23	StudentDiscount	20%		Student discount set according to local regulations
	DisabilityDiscount	20%		Disability discount set according to local regulations
24	DiscountBaseRate	<b>0.44</b>	USD/km	<b>Discounted base rate: BaseRate x (1 - SeniorDiscount)</b>
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	<b>0.44</b>	USD/km	<b>Rate for a shared pod: BaseRate x (1 - SharedPodDiscount)</b>
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	<b>0.33</b>	USD/km	<b>Rate for shared compartment</b> <b>BaseRate x (1 - SharedCompartmentDiscount)</b>
29		0.38	USD/km	Rate for 500 km in single-passenger pod.
30	Senior + SharedCompartmentRate	<b>0.16</b>	USD/km	<b>Rate for a Senior taking a 500 km trip in a shared compartment.</b> <b>BaseRate x (1 - SeniorDiscountAmount) x (1 - SharedCompartmentDiscount) x (1 - MaxDistanceDiscount)</b>
31	DistanceBase	15,345,084	km	Passenger distance under base fare. Audited value from operational data.
32	PercentBase	74%		Percent of passenger distance under base fare: <b>DistanceBase / PassengerTravel</b>
33	BaseRevenue	7,202,619	USD	Annual revenue from all travel under base rate. Audited value from operational data.
34	AverageDiscount	15%		Average fare discount from Base Rate: <b>1 - (BaseRevenue / (DistanceBase x BaseRate))</b>
35	MarketFactor	1.0		Market rate factor. Negotiated value for setting ratio of AverageDiscount
36	MarketRateCap	15%		Cap on passenger travel distance at market rate: <b>AverageDiscount x MarketFactor</b>
37	MarketTravelCap	2,373,687	km	Cap on passenger travel distance at market rate: <b>DistanceBase x MarketRateCap</b>

# Project Summary

<b>Project Description</b>	Solar-powered automated transportation network infrastructure
<b>Project type</b>	Privately-funded Green Infrastructure
<b>Project cost</b>	\$29 million
<b>Cost to Gov't</b>	\$0
<b>Structure</b>	Privately financed equity and debt
<b>Debt term</b>	10 years @ 5%
<b>Equity terms</b>	A waterfall profit distribution with: <ol style="list-style-type: none"> <li>1. 90/10 split until Return of Capital,</li> <li>2. then 50/50 until Target IRR met</li> <li>3. then 10/90 onwards</li> </ol>
<b>Yearly fees &amp; taxes</b>	\$853,702
<b>Benefits to society and environment</b>	Extremely high




Transit X, LLC presents a preliminary proposal for a privately-funded fleet of fully-autonomous shared electric vehicles on local and regional podway network for

## Manchester-by-the-Sea, Massachusetts

**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](http://transitx.com/transitxhandbook.pdf)



**4 mile network with 117 pods**

**95% of population within a 5 min. walk**

**Nonstop 45 mph service to 30 stops**

## Financials

(US\$ in millions)

	Year 1	Total Years 1-12
<b>Gross Revenues</b>	<b>6</b>	<b>151</b>
<b>Taxes and fees</b>	<b>0</b>	<b>8</b>
<b>Debt service</b>	<b>\$3</b>	<b>\$26</b>

### 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. First pilots will begin operations 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.

## ESG (Environmental, Social, Governance) Benefits

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

## Status

	Now	Prior to close
<b>Project financing</b>	Letter of Interest	Yes
<b>Demonstration system</b>	In development	Yes
<b>Rider-Revenue study</b>	Proposals	Yes
<b>Environmental study</b>	Expedited request	Yes
<b>Air rights</b>	Proposal	Ordinance
<b>Permits</b>	Known process	Yes
<b>Safety certification</b>	Expedited request	Yes
<b>Installation</b>	High interest	Contracted
<b>Operations &amp; Maint</b>	High interest	Contracted
<b>Utility relocation</b>	Identified	Agreements
<b>EPC</b>	Identified	Contracted

General information available at [transitx.com](http://transitx.com). 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](mailto:mike@transitx.com), 508-596-7024



## Model Inputs and Assumptions

<b>Route length (km)</b>	7	<b>Travel per year per pod (km)</b>	167,797
<b>Starting number of pods</b>	39	<b>Revenue per vehicle-km (US\$)</b>	0.95
<b>Projected revenue growth</b>	15%	<b>OPEX as % of project cost</b>	5%
<b>Project Cost (Privately funded)</b>	\$28,532,441	<b>Debt Interest rate</b>	5%
<b>% Debt financed</b>	70%	<b>Debt term (yrs)</b>	10
<b>Debt</b>	\$19,972,709	<b>Years to return equity capital</b>	5
<b>Equity</b>	\$8,559,732	<b>Profit share when below capital return</b>	90%
<b>Capital return per year</b>	\$1,711,946	<b>Profit share when below Target IRR</b>	50%
<b>Debt payment (per year)</b>	\$2,586,557	<b>Profit share when above Target IRR</b>	10%

## Pro Forma

Years	0	1	2	3	4	5	6	7	8	9	10	11	12
<b>Revenue</b>	0	<b>6,186,250</b>	7,114,187	8,181,315	9,408,513	10,819,789	12,442,758	14,309,172	16,455,547	18,923,879	21,762,461	25,026,830	28,780,855
<b>5% RoW-tax+fee</b>	0%	309,312	355,709	409,066	470,426	540,989	622,138	715,459	822,777	946,194	1,088,123	1,251,342	1,439,043
<b>Debt service</b>	0	\$2,586,557	\$2,586,557	\$2,586,557	\$2,586,557	\$2,586,557	\$2,586,557	\$2,586,557	\$2,586,557	\$2,586,557	\$2,586,557	0	0
<b>Investor balance</b>		-\$6,788,419	-\$4,660,133	-\$2,406,187	-\$57,821	\$2,399,126	\$4,980,943	\$6,336,802	\$7,857,800	\$9,568,709	\$11,498,016	\$13,937,135	\$16,665,084

### 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.