



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

Swampscott, MA

This proposal is downloadable at transitx.com/proposals/Transit_X_for_Swampscott,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



**9 mile network
with 267 pods**

**95% of population
within a 3 min. walk**

**Nonstop 45 mph
service to 90 stops**

Transit X proposes to build and operate a green, privately-financed microtransit podway to carry passengers and freight for Swampscott, MA 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 (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

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 operating by the end of 2019. We partner with local civil engineering and construction firms for the installation.

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, as well many new types of job will be created as transportation becomes more efficient. Transit X intends to build manufacturing and assembly plants around the world and locate them where Transit X is first deployed in a region. 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 podways.

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\$2 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.

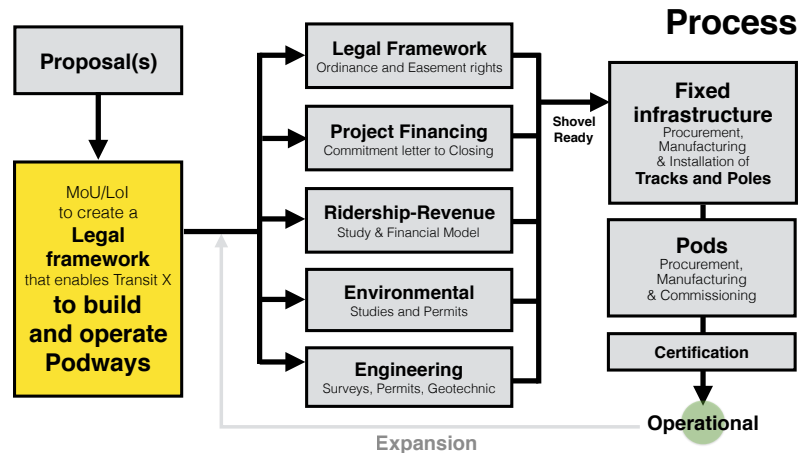
Short and Long Term Solution

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 government or commercial entity. We would refine a proposal that meets your needs, then ask for a letter stating you will create a legal framework for Transit X to build and operate a podway in your region. Example documents and a sample project schedule can be viewed at:

transitx.com/process



Evaluation

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

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

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

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

Whatever process you use to evaluate this proposal, Transit X is open to working with you on refining this proposal to meet your needs. We hope you will conclude

that moving forward with Transit X is an excellent opportunity to meet your current and future challenges.

Once we agree to move forward, we need a memorandum of understanding (example at 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)
- Transit X Handbook (transitx.com/transitxhandbook.pdf)
- Letters of Project Financing, Due Diligence, Contracts (transitx.com/letters.pdf)
- Memorandum of Understanding template (transitx.com/process/mou.html)
- Example Resolution (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 Swampscott through better transportation.

Sincerely,



Mike Stanley
CEO, Transit X



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1	Transit X network length	14 km	8.7 miles
2	People (resident-equivalent) in region	14,722	resident-equivalent population
3	Route density ratio (route length to service area)	1.94	
4	Number of stops	90	
5	Triple-speed route length	0 km	
6	Water crossing route length	0 km	
7	Cost of fixed infrastructure	\$50,629,959	
8	...per person	\$3,439	
9	Mode share of travel on Transit X (27% after first year)	83%	after 10 years
10	Distance traveled on Transit X, per year	61,220,060 km	38,024,882 miles
11	...per day	167,726 km	104,178 miles
12	Daily potential energy generation with standard panels on tracks	107 MWh	
13	Sustainable energy use per day	1 MWh	1% of max capacity
14	Energy storage capital cost for 1 day(s) of supply at \$100 per kWh	\$113,722	
15	Size (rated power) of solar installation	264 KW	
16	Cost to generate sustainable energy (at \$1,000 per kW)	\$264,386	
17	Cost of buying sustainable energy at \$0.15 per kWh	\$171 per day	2% of OPEX
18	Daily passengers riding Transit X	12,244 customers	83% of the pop.
19	Distance per passenger per day	14 km	8.5 miles
20	Average distance per trip (assuming 3 trips per day)	5 km	2.8 miles
21	Single passenger fare for shared 5 km trip	\$1.19	
22	Passenger distance traveled during peak hour	33,545 km	20,836 miles
23	Breakeven	4,723	customers per day (34% of people convenient to Transit X)
24	Boarding capacity	32,400	passengers per hour (265% of customers)
25	Number of pods for peak demand	267	pods at 83% mode share
26	Number of customers per pod	45.9	and 55 people per pod
27	Distance per pod per year	167,900 km	
28	Two-layer pod garage area (3% of route with side-parking)	294 m ²	0.2% of car parking
29	Cost of pods	\$1,735,500	is \$91 per person
30	Capital cost of energy generation and storage	\$491,541	is \$33 per person
31	Project Finances		
32	Total Project Cost (privately financed)	\$52,857,000	
33	Project cost	\$3,786,539 per km	US\$6.1M per mi.
34	Equity	\$15,857,100	
35	Private debt financing	\$36,999,900	
36			
37			
38			
39	Debt service (per year)	\$5,549,985	
40	Yearly fees and taxes (US\$141 per capita)	\$2,080,821	
41	OPEX + Debt service + Tax + Fees	\$10,273,656	
42			
43			
44	Project costs — per person	\$3,590	
45	Number of motor vehicles displaced	6,122	motor vehicles
46	Yearly cost of cars displaced — per person	\$3,743	
47	Operating costs per passenger-km	\$0.04	
47	Full costs per passenger-km	\$0.17	
48	Breakeven revenue distance per day	64,702 km	40,188 miles
49	Number of tracks in one direction needed to satisfy peak demand	0.00	



Impact of proposed network

1	Reduction in GHG emissions (metric tons CO2-eq)	6,045 MTCO2-eq annually
2	Estimated cost to maintain public roadways	\$2,472,980 annually
3	Reduced waste products	981 metric tons annually
4	Travel time saved (non-stop travel and congestion)	243 hrs/person annually
5	Cost savings from reduced car ownership	\$925 per person annually
6	Increase in household income (from time savings and car costs)	8%
7	Reported injuries avoided	38 annually
8	Lives saved (from safety)	0 annually
9	Land freed from parking (35 acres)	140,806 m ²
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	0.49 km 0 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	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 45 mph
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	5 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	\$0.44
39	(per mile)	\$0.70
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)	\$13.75
46	Eat. roadway maintenance per year per km	\$51,000
47	Area of one parking lot space	23 m ² 247 sf
48	Commercial income of land (annual)	\$1.10 per m ²
49	Distance from roadway that is convenient	0.15 km
50	Stops per km	6.7
51	Boarding capacity per stop	360 pph
52	Solar panel area per meter of track	2.0
53	Cost of sustainable energy and storage	\$0.15 per kWh
54	Global Horizontal Irradiance (GHI)	3.8 kWh/m ² /day
55	Cost to generate sustainable energy	\$1,000 per kW
56	Storage per column	40 kWh
57	Typical span	23 m cols/km: 44
58	Energy storage cost	\$100 per kWh
59	Energy storage capacity	1 days
60	Area of parked pod	2.20 m ²
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%

Model Inputs (continued)

68	Name of region or project	Swampscott, 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)	8
73	Number of residents in region	14,722
74	% travel within region	50%
75	% of land area served by roads	90%
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	Daily Passengers 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 Efficiency in MPGe	3564 24
91	Energy Efficiency in liters/100km	0.07 9.8
92	Energy used (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 5 km trip	4 17
97	Fare/cost per km	\$0.44 \$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

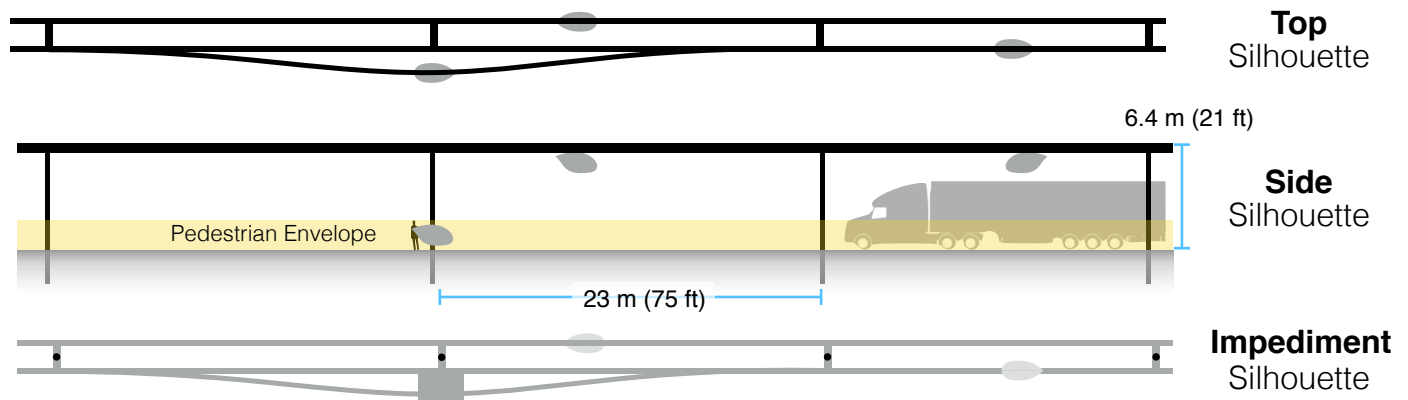


5% of gross revenue is paid to government easement owners for all fees and taxes. When on a private easement, 4% is paid to the private owner and 1% to the government. A minimum payment is based on the Footprint and the Transit X Commercial Rate (TXCR).

1	Government Fees and Tax rate	(for calculating minimums)	
2	Total commercial land (estimated)	720,000 m ²	178 acres
3	Total commercial gov't revenue (US\$)	\$792,000	
4	TXCR (Transit X Commercial Rate)	\$1.10 per m ²	
	<i>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.</i>	\$11.84 per sf	
5			
6			
7	Private Easement Fees		
8	4% of gross revenue	\$29.81 per route-meter	\$9.09 per route-foot
9	Minimum per year	\$1.63 per route-meter	\$0.50 per route-foot
10	Government Fees and Taxes		
11	% of route on government easements	98%	
12	5% on government easements	\$2,039,205	
13	1% on private easements	\$8,323	
14	Total gov't fees and taxes	\$2,047,528 per year	
16	per resident	\$139	
15	with a minimum of	\$22,821 per year	

Footprint calculations for minimum fee

Yearly fees and taxes



1	Footprint Calculations	Metric	Imperial
2	Track width	0.30 m	11.8 inches
3	Track height	0.60 m	23.6 inches
4	Post diameter	0.3 m	11.8 inches
5	Post cross section	0.07 m ²	0.8 sf
6	Stop landing area	3.75 m ²	40.4 sf
7	...width	1.5 m	59.1 inches
8	...length	2.5 m	98.4 inches
9	Ramp length	21 m	68.9 feet
10	Typical Span	23 m	75.5 feet
11	Number of posts per unit length	43.5 poles per km	70.0 poles per mile
12	Post height	6 m	19.7 feet
13			
14	Single track	1022.1 m ²	10998 sf
15	...Area of Side Silhouette	678.3 m ²	7298 sf
16	...Area of Top Silhouette	313.1 m ²	3369 sf
17	...Impediment Area (adjusted)	30.7 m ²	331 sf
18			
19	Dual track	1322.1 m ²	14226 sf
20	...Area of Side Silhouette	678.3 m ²	7298 sf
21	...Area of Top Silhouette	613.1 m ²	6597 sf
22	...Impediment Area (adjusted)	30.7 m ²	331 sf
23			
24	Stop	82.1 m ²	883 sf
25	...Area of Side Silhouette	25.2 m ²	271 sf
26	...Area of Top Silhouette	19.4 m ²	208 sf
27	...Impediment Area (adjusted)	37.5 m ²	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 ² per route-km	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	



Fair Fare Formula

Summary

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

At 0.42 USD per mile, a typical commute on Transit X is 17% less than public transit and 74% less than a Taxi.*

All prices in USD		Trip Length		
		1 mile	6 mile	25 mile
Common public modes	Transit X	0.52 to 0.87 2 min., 3.6x faster	2.58 to 4.32 8 min., 3.6x faster	9.88 to 16.84 33 min., 3.4x faster
	Public transit average	2.92	4.64	6.80
	Taxi	4.05 2 to 6 minutes	17.62 8 to 30 minutes	68.52 30 to 120 minutes
	Uber/Lyft	3.08 2 to 6 minutes	12.69 8 to 30 minutes	48.71 30 to 120 minutes
	Public Bus	2.35 3 to 12 minutes	2.35 15 to 60 minutes	3.60 60 to 240 minutes
	Train	3.52 2 to 12 minutes	4.15 8 to 60 minutes	6.50 30 to 240 minutes
	Personal car	3.36 2 to 6 minutes	10.54 8 to 30 minutes	37.47 30 to 120 minutes

Travel mode	Avg. Speed	Low Speed	High speed	Base	Includ es km	Over per-km	Min Dist.	Max Dist.	Time cost	Mode share		
	km/h	km/h	km/h				km	km	per min	2	10	40
Taxi	30	20	80	2.35	1	1.17	0.5	100	1.04	5%	4%	1%
Uber/Lyft	30	20	80	1.88	1	0.94	0.5	100	0.52	10%	10%	2%
Public Bus	15	10	40	2.35	20	0.06	0.5	50	0	50%	50%	40%
Train	30	10	80	3.52	2	0.08	2	100	0	35%	36%	57%
Transit X	72	72	72	0	0	0.26	0.1	50	0	-	-	-
Personal car	30	20	80	1.57	0	0.78	0.1	400	0.23	-	-	-

* 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 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.



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: 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	1.00		Regional Fare Factor. Negotiated upfront to make network financially viable.
11	AdjustedRate	0.48	USD/km	Regional adjusted rate: NominalRate * RegionalFactor
13	Population	14,722		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	61,220,060	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: PassengerTravel / (Population x AllTravel)
16	BaseRate	0.44	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	0.96	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	0.000348	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
	DisabilityDiscount	20%		Disability discount set according to local regulations
24	DiscountBaseRate	0.35	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	0.35	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	0.26	USD/km	Rate for shared compartment BaseRate x (1 - SharedCompartmentDiscount)
29	SingleOccupancyMaxDistance	0.30	USD/km	Rate for 500 km in single-passenger pod.
30	Senior + SharedCompartmentRate	0.13	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	45,302,845	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	16,151,262	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 / (DistanceBase 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	8,175,727	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	Privately-funded Public Transit Design, Build, Finance, Own, Operate, Maintain (DBFOOM)
Project cost	US\$53 million
Cost to Gov't	\$0
Structure	Privately financed equity and debt
Debt term	10 years @ 5%
Equity terms	A waterfall profit distribution with: <ol style="list-style-type: none"> 1. 90/10 split until Return of Capital, 2. then 50/50 until Target IRR met 3. then 10/90 onwards
Taxes & Fees	\$2,047,528 per year
Benefits to society and environment	Extremely high



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

Swampscott, MA

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



Financials

(US\$ in millions)

	Year 1	Total Years 1-12
Gross Revenues	14	398
Taxes and fees	1	20
Debt service	\$5	\$48

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
Operations & Maint	Yes	Yes
Utility relocation	Per project	Agreements

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

General information available at 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, 508-596-7024



Model Inputs and Assumptions

Route length (km)	14	Travel per year per pod (km)	167,900
Starting number of pods	88	Revenue per vehicle-km (US\$)	0.93
Projected revenue growth	15%	OPEX as % of project cost	5%
Project Cost (Privately funded)	\$52,857,000	Debt Interest rate	5%
% Debt financed	70%	Debt term (yrs)	10
Debt	\$36,999,900	Years to return equity capital	5
Equity	\$15,857,100	Profit share when below capital return	90%
Capital return per year	\$3,171,420	Profit share when below Target IRR	50%
Debt payment (per year)	\$4,791,656	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	13,716,273	15,773,714	18,139,771	20,860,736	23,989,847	27,588,324	31,726,573	36,485,558	41,958,392	48,252,151	55,489,974	63,813,470
5% RoW-tax+fee	0%	685,814	788,686	906,989	1,043,037	1,199,492	1,379,416	1,586,329	1,824,278	2,097,920	2,412,608	2,774,499	3,190,673
Debt service	0	\$4,791,656	\$4,791,656	\$4,791,656	\$4,791,656	\$4,791,656	\$4,791,656	\$4,791,656	\$4,791,656	\$4,791,656	\$4,791,656	0	0
Investor balance		-\$11,740,361	-\$7,457,521	-\$2,983,665	\$1,709,861	\$6,656,006	\$11,892,663	\$14,926,273	\$18,344,086	\$22,203,732	\$26,571,485	\$32,002,729	\$38,105,944

Important Notices

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