



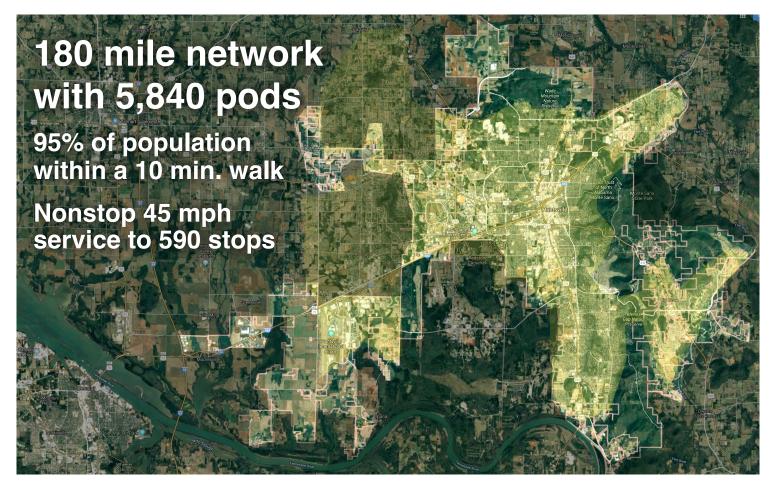
Transit X presents a preliminary proposal for a privately-financed public transit system — a fleet of automated electric vehicles (pods) for passengers and freight on a local and inter-city micro-guideway providing equitable transportation for

# Huntsville, AL

This proposal is downloadable at <a href="mailto:transitx.com/proposals/Transitx">transitx.com/proposals/Transitx</a> X for Huntsville, AL.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>



# **Proposal Overview**



Transit X proposes to finance, build and operate a sustainable microguideway to carry passengers and freight for Huntsville that makes the Transit X service convenient to 95% of the population.

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

### **Major benefits**

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

The Transit X Handbook (<u>transitx.com/</u> <u>transitxhandbook.pdf</u>) answers many questions about our service, the company, our technology, and the way we address: congestion, parking, road safety, pedestrian safety, ADA compliance, sustainability, fares,



solar+storage, construction, aesthetics, operations, economic development, quality of service, security, station footprint, equitability, carbon footprint, transit integration, resiliency, reliability, rights-of-way, and open space.

## Congestion, parking, pollution, and safety

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

## **High Capacity & High Speed**

A single track carries 12,000 pods per hour (20,000 to 50,000 passengers per hour). Two boarding areas fit in a single car space and provide 2,000 boardings per hour. 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 easements alongside highway and roads and integrate utility lines and poles Non-stop interchanges fit above existing intersections. Factory-built tracks and posts enable fast installation with minimal disruption. There are options for long crossings using bridges or underground tunnels. Posts are typically spaced at 23 m (25 yds).

## 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 investment banks, private equity firms, banks, 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 Transit X system will be demonstrated by the end of 2019.

## **Service Quality**

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

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

Transit X offers a much higher quality of life by eliminating many forms of pollution. Pods are quiet, efficient and have zero emissions. Pods offer less visual impact than the existing roads and vehicles, and utility lines can be hidden within the track. At night, there is no light pollution from headlights or taillights. Water pollution from road runoff is significantly reduced. Parking lots and roadways can be converted into green space and community paths as they become unnecessary.

### Sustainable and Efficient

Pods weigh only 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 the negative impacts of personal cars. Transit X combines the best of mass transit and personal transportation modes which will lead to greater use of public transit and fewer cars.

### **De-risking Projects**

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

#### Jobs and Workforce Development

Many regional jobs will be created to build a new transportation infrastructure, as well many new types of jobs will be created from economic growth. The majority of

the construction jobs will be locally sourced and preferential hiring is given to those displaced by the transition.

#### **Revenue Generator 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\$34 million per year average over the first 10 years.

## **Short and Long Term Solution**

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

## **Moving Forward**

The diagram shows our process for a project. We submit a project proposal, then ask for a commitment for Transit X to build and operate a podway along rights-of-way easements. Example documents and a sample project schedule can be viewed at:

transitx.com/process

#### Proposal(s) **Project Financing** Procurement, Manufacturing & Installation of ommitment lett Letter of Design **Fixed Civil** Intent Shove infrastructure Tracks and Poles & Utility relocation Utilities **Binding** Integration plan and approvals **Agreement** o designate Permitting podway as a Commissioning & Certification of **Public Utility Rolling Stock Environmental** approvals Ridership-Revenue Independent Study Legal Agreements Operational 12 - 18 months 3-6 months 12 - 24 months

#### **Evaluation**

#### Please review our

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

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

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

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

We hope you will conclude that moving forward with Transit X is an excellent opportunity to meet your current and future challenges.

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

#### Other Resources

The links below provide general information about Transit X:

- One minute video overview (transitx.com/video)
- 7 minute video presentation (https://vimeo.com/36606646/eac953c0cc)
- 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 Huntsville 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







1				
0	Transit X network length	291	km	180.5 miles
2	People (resident-equivalent) in region	199,518	resident-equivalent po	pulation
3	Route density ratio (route length to service area)	0.58		
4	Number of stops	590		
5	Triple-speed route length	0	km	
6	Water crossing route length	0	km	
7	Cost of fixed infrastructure	\$1,053,736,026		
8	per person	\$5,281		
9	Mode share of travel on Transit X (25% after first year)		after 10 years	
10	Distance traveled by passengers on Transit X, per year	1,341,443,461		833,194,696 miles
11	per day	3,675,188		2,282,725 miles
	ly potential energy generation with standard panels on tracks	2,231.2		
3	Sustainable energy use per day		MWh	1.0% of max capacity
	gy storage capital cost for 1 day(s) of supply at \$250 per kWh	\$6,229,659		
5	Size (rated power) of solar installation	5,793		
16	Cost to generate sustainable energy (at \$1,000 per kW)	\$5,793,186		00/ - ( ODE)/
17	Cost of buying sustainable energy at \$0.15 per kWh		per day	2% of OPEX
18	Daily passengers riding Transit X		customers	75% of the pop.
19	Distance per passenger per day		km	15.3 miles
20	Average distance per trip (assuming 3 trips per day)	-	km	5.1 miles
21	Single passenger fare for shared 8 km trip	\$2.01		AFC FAF miles
22	Passenger distance traveled during peak hour	735,038		456,545 miles
23	Breakeven	62,564	of people convenient	2% of expected and 33% to Transit X)
24	Boarding capacity	212,400	passengers per hour	(143% of customers)
25	Number of pods for peak demand	5,840	pods at 75% mo	de share
26	Number of customers per pod		and 34 people per	
27	Distance per pod per year	168,201		
28	Two-layer pod garage area (3% of route with side-parking)	6,424	m²	0.2% of car parking
29	Cost of pods	\$37,960,000	is \$146 per person	
30	Capital cost of energy generation and storage		is \$78 per person	
Projec	t Finances			
32	Total Project Cost	\$1,107,325,725		
33	Project cost per km	\$3,811,458	per km	US\$6.1M per mi.
34	Equity financing	\$332,197,718		
35	Debt financing	\$775,128,008		
36				
37				
37 38	D-liti (	Φ4.04 <b>774</b> 704		
37 38 39	Debt service (per year)  Vearly fees and taxes (US\$215 per capita)	\$131,771,761 <b>\$42,799,507</b>		
37 38 39 40	Debt service (per year) Yearly fees and taxes (US\$215 per capita)	\$131,771,761 <b>\$42,799,507</b>		
37 38 39 40				
37 38 39				
37 38 39 40 41 42				
37 38 39 40 41	Yearly fees and taxes (US\$215 per capita)	<b>\$42,799,507</b> \$5,550	motor vehicles	
37 38 39 40 41 42 43 44	Yearly fees and taxes (US\$215 per capita)  OPEX + Debt services   Debt services    Project costs — per person	<b>\$42,799,507</b> \$5,550		
37 38 39 40 41 42 43 44	Project costs — per person  Number of motor vehicles displaced	<b>\$42,799,507</b> \$5,550 134,144		
37 38 39 40 41 42 43 44 45	Project costs — per person  Number of motor vehicles displaced  Yearly cost of cars displaced — per person	\$42,799,507 \$5,550 134,144 \$6,051	motor vehicles	
37 38 39 40 41 42 43	Project costs — per person  Number of motor vehicles displaced  Yearly cost of cars displaced — per person  Operating costs per passenger-km	\$42,799,507 \$5,550 134,144 \$6,051 \$0.04	motor vehicles	958,187 miles





# Impact of proposed network

1	Reduction in GHG emissions (metric tons CO2-eq)	132,468 MTCO2-eq annually
2	Estimated cost to maintain public roadways	\$100,919,388 annually
3	Reduced waste products	21,497 metric tons annually
4	Travel time saved (non-stop travel and congestion)	438 hrs/person annually
5	Cost savings from reduced car ownership	\$1,905 per person annually
6	Increase in household income (from time savings and car costs)	14%
7	Reported injuries avoided	832 annually
8	Lives saved (from safety)	8 annually
9	Land freed from parking (762 acres)	3,085,320 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**

4.5	Ratio of road length to track length	4		
15 16	Walking speed	-	km/h	3 mph
	Width of convenient swath along track	1.63		1 mile
17	Fixed cost per km (track & posts)	\$2,790,000	KIII	i iiiie
18	Water crossing: additional cost per km	\$8,370,000		
19	Triple-speed: additional cost per km	\$5,580,000		
20	Rate factor for water crossings or high-speed links.	2.2		
21	g g .	2.2		
22	Average distance traveled per person per year in a developed county 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		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		passengers	
32	Average passengers per pod		passengers	
	Average discount per passenger	18%	, 5. ,	
33	Maximum passengers per pod	5	passengers	
34	Empty pods: Percentage non-revenue	25%	J	
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	\$0.41		
39	(per mile)	\$0.66		
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	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		
47	Area of one parking lot space	23	m <sup>2</sup>	247 sf
48	Commercial income of land (annual)	\$1.10	per m <sup>2</sup>	
49	Distance from roadway that is convenient	0.49	km	
50	Stops per km	2.0		
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)		kWh/m²/day	
55	Cost to generate sustainable energy	\$1,000	per kW	
56	Storage per column	40	kWh	
57	Typical span	23	m cols/km:	44
58	Energy storage cost	\$250	per kWh	
59	Energy storage capacity	1	days	
60	Area of parked pod	2.20	m²	
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	Huntsville, AL
69	Currency name	
70	Equal to US\$1	1
71	Sustainable energy/electricity generation & storage as	CAPEX
72	Land area of region (sq. km)	555
73	Number of residents in region	199,518
74	% travel within region	90%
75	% of land area served by roads	90%
76	Coverage: % of pop. convenient (10 min walk) to Transit $\boldsymbol{X}$	95%
77	Annual median household income (US\$)	\$55,000
78	Convenient walk time to stop (min)	10
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 Adjustment	100%
88	Number of Stops Adjustment	100%
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 8 km trip	7	31
100	Fare/cost per km	\$0.41	\$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



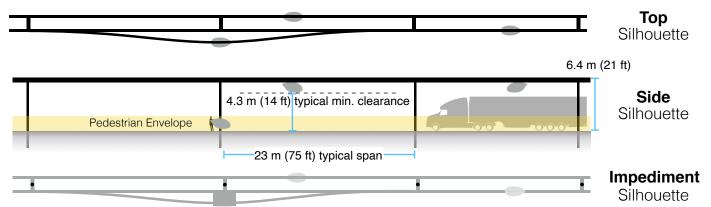
# 5% of gross revenue is paid for air rights and local taxes.

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)	49,950,000	m²	12,343 acres
3	Total commercial gov't revenue (US\$)	\$54,945,000		
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)	
6				
7	Private Easement Fees	For examp	ole	
8	4% of gross revenue	\$29.46	per route-meter	\$8.99 per route-foot
9	Minimum per year	\$1.63	per route-meter	\$0.50 per route-foot
10	Transit X payment to Gover	nment		
10	Transit X payment to Government easements		estimated	
	• •			
11	% of route on government easements	98%		
11	% of route on government easements  Total air-rights and local taxes	98% <b>\$42,114,715</b>	per year	
11 12 13	% of route on government easements  Total air-rights and local taxes  per resident	98% <b>\$42,114,715</b> \$211	per year	
11 12 13 14	% of route on government easements  Total air-rights and local taxes  per resident	\$42,114,715 \$211 \$474,959	per year	
11 12 13 14 15	% of route on government easements  Total air-rights and local taxes  per resident  with a minimum of	\$42,114,715 \$211 \$474,959	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	98% \$42,114,715 \$211 \$474,959 Government	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  Less road maintenance from lower VMT	\$42,114,715 \$211 \$474,959 Government	per year	

# Footprint calculations for minimum fee

# Yearly fees and taxes



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

1	Footprint Calculations	Metric		Imperial	
2	Track width	0.30	m	11.8	inches
3	Track height	0.60	m	23.6	inches
1	Post diameter	0.3	m	11.8	inches
5	Post cross section	0.07	$m^2$	0.8	sf
3	Stop landing area	<u>3.75</u>	m <sup>2</sup>	40.4	sf
7	width	<u>1.5</u>	m	59.1	inches
3	length	<u>2.5</u>	m	98.4	inches
9	Ramp length	21		68.9	
10	Typical Span	<u>23</u>		75.5	
11	Number of posts per unit length	<u>43.5</u>	poles per km	70.0	poles per mile
12	Post height	<u>6</u>	m	19.7	feet
13					
14	Single track	1022.1	m <sup>2</sup>	10998	sf
15	Area of Side Silhouette	678.3	$m^2$	7298	sf
16	Area of Top Silhouette	313.1	m <sup>2</sup>	3369	sf
17	Impediment Area (adjusted)	30.7	m <sup>2</sup>	331	sf
18	· , , , ,				
19	Dual track	1322.1	m <sup>2</sup>	14226	sf
20	Area of Side Silhouette	678.3		7298	
21	Area of Top Silhouette	613.1		6597	-
22	Impediment Area (adjusted)	30.7		331	
23	,				
24	Stop	82.1	m <sup>2</sup>	883	sf
25	Area of Side Silhouette	25.2		271	
26	Area of Top Silhouette	19.4		208	
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	m² 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

Faster travel saves a household 295 hours per year.\*

At 0.40 USD per mile, a typical commute on Transit X is

17% less than public transit and 74% less than a Taxi.\*

Trip	Length

All prices in USD		1 mile	6 mile	25 mile
Transit X		<b>0.49</b> to 0.82 2 min., 3.6x faster	<b>2.42 to 4.05</b> 8 min., 3.6x faster	<b>9.28</b> to 15.81 33 min., 3.4x faster
Public transit average		2.74	4.36	6.39
səpou	Taxi	<b>3.80</b> 2 to 6 minutes	<b>16.54</b> 8 to 30 minutes	<b>64.32</b> 30 to 120 minutes
Common public modes	Uber/Lyft	<b>2.89</b> 2 to 6 minutes	<b>11.91</b> 8 to 30 minutes	<b>45.72</b> 30 to 120 minutes
ıd uou	Public Bus	<b>2.21</b> 3 to 12 minutes	<b>2.21</b> 15 to 60 minutes	<b>3.38</b> 60 to 240 minutes
Comr	Train	<b>3.31</b> 2 to 12 minutes	<b>3.90</b> 8 to 60 minutes	<b>6.10</b> 30 to 240 minutes
Personal car		<b>3.17</b> 2 to 6 minutes	<b>9.97</b> 8 to 30 minutes	<b>35.46</b> 30 to 120 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	2.21	1	1.10	0.5	100	0.98	5%	4%	1%
Uber/Lyft	30	20	80	1.76	1	0.88	0.5	100	0.49	10%	10%	2%
Public Bus	15	10	40	2.21	20	0.06	0.5	50	0	50%	50%	40%
Train	30	10	80	3.31	2	0.07	2	100	0	35%	36%	57%
Transit X	72	72	72	0	0	0.25	0.1	50	0	-	-	-
Personal car	30	20	80	1.47	0	0.74	0.1	400	0.23	-	-	-

<sup>\*</sup> 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

	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	1.00		Regional Fare Factor. Negotiated upfront to make network financially viable.
11	AdjustedRate Population	0.48	USD/km	Regional adjusted rate: NominalRate * RegionalFactor
13 12	UsageMaxDiscount	199,518 50%		Population in region. Updated annually based on trusted public data source.  Fare Discount when Transit X travel per household equals AllTravel. Global constant.
14	PassengerTravel		km	Total passenger distance traveled previous calendar year. Based on expected mode share for
	3	1,011,110,101	1011	first 3 years. Based on actual passenger trips. Audited. Percent of Total Travel Per Capita on Transit X:
15	ModeShare	29%		PassengerTravel / (Population x AllTravel)
16	BaseRate	0.41	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	0.90	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	0.000327	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	0.33	USD/km	Discounted base rate: BaseRate x (1 - SeniorDiscount)
25	SharedPodDiscount	20%		Discount for requesting a shared pod. 15% minimum and 30% maximum.
<ul><li>26</li><li>27</li></ul>	SharedPodRate SharedCompartment Discount	<b>0.33</b>	USD/km	Discount for requesting a shared compartment. 25% minimum and 40% maximum. At least 10
28	SharedCompartment	0.25	USD/km	percentage points higher than SharedPodDiscount.  Rate for shared compartment
_0	Rate	0.23	COD/KIII	BaseRate x (1 - SharedCompartmentDiscount)
29	SingleOccupancyMa xDistance	0.28	USD/km	
30	Senior + SharedCompartment Rate	0.12	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	992,668,161	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	332,208,335	USD	Annual revenue from all travel under base rate. Audited value from operational data.
35	AverageDiscount	18%		Average fare discount from Base Rate:  1 - (BaseRevenue / (DistanceDase x BaseRate))
36	MarketFactor	1.0		Market rate factor. Negotiated value for setting ratio of AverageDiscount
37	MarketRateCap	18%		Cap on passenger travel distance at market rate:  AverageDiscount x MarketFactor
38	MarketTravelCap	179,145,134	km	Cap on passenger travel distance at market rate:  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\$332 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 \$42,114,715 per year

Benefits to

society and Extremely high environment

Estimated return 21% average IRR at 5 yrs

30% average IRR at 10 yrs

Financials (US\$ in millions)	Year 1	Total Years 1-12
Gross Revenues	282	8,191
Taxes and fees	14	410
Debt service	\$54	\$597

# 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
<b>Lowers Pollution</b>	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

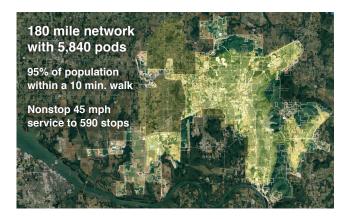




Transit X presents a preliminary proposal for a sustainable micro-guideway network
— a fleet of automated electric vehicles (pods) for passengers and freight on a
local and regional podway providing equitable public transportation for

# Huntsville, AL

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 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	Available	Yes
<b>Outdoor Test Track</b>	Nov 2019	Yes
Rider-Revenue study	Preliminary	Yes
<b>Environmental study</b>	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
<b>Operations &amp; Maint</b>	Partners	Yes
Utility relocation	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, CEO, Transit X, mike@transitx.com, 508-596-7024



# **Model Inputs and Assumptions**

Route length (km) 291

Starting number of pods 1,927

Projected revenue growth 15%

Project Cost (Privately funded) \$1,107,325,725

% Debt financed 70%

Debt \$775,128,008

Equity \$332,197,718

Debt payment (per year) \$54,258,961

Travel per year per pod (km) 168,201

Revenue per vehicle-km (US\$) 0.87

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	282,447,432	324,814,547	373,536,729	429,567,239	494,002,325	568,102,673	653,318,074	751,315,785	864,013,153	993,615,126	1,142,657,395	1,314,056,005
5% RoW÷tax÷fee	•	0%	14,122,372	16,240,727	18,676,836	21,478,362	24,700,116	28,405,134	32,665,904	37,565,789	43,200,658	49,680,756	57,132,870	65,702,800
Debt service		0	\$54,258,961	\$54,258,961	\$54,258,961	\$54,258,961	\$54,258,961	\$54,258,961	\$54,258,961	\$54,258,961	\$54,258,961	\$54,258,961	\$54,258,961	\$54,258,961
Investor share		0	128,546,849	154,421,340	109,557,366	64,129,951	68,502,380	73,530,674	79,313,212	85,963,131	93,610,538	102,405,056	112,518,751	124,149,501
Investor share (%)	)		90%	90%	54%	26%	24%	22%	20%	19%	17%	16%	15%	15%
Share / Orig Capita	al	0%	39%	46%	33%	19%	21%	22%	24%	26%	28%	31%	34%	37%
IRR to date		loss	(61%)	(10%)	9%	16%	21%	24%	26%	28%	29%	30%	31%	32%

#### **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 4,800 new jobs in manufacturing, construction, and operations. About 2,400 existing transportation jobs would be impacted — of which 400 workers would need significant retraining. Improving the transportation infrastructure will boost the economy overall and lead to 2,300 new jobs. Lowering the cost of transportation and reducing travel times raises household income by 14%.

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	1,210	
8	% of jobs that are manufacturing vs. construction	75%	
9	Manufacturing jobs	910	
10	Construction jobs	300	
11	Supply chain jobs factor	3	
12	Jobs in supply chain	3,630	
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	260	
17	Secondary-effect jobs factor	7%	
18	Secondary effect jobs	2,290	
19	Job transitioning and training		
20	Expected mode share at 10 years (from page 6, line 9)	75%	
21	% of population with a full-time job	60%	119,711
22	jobs in transportation	10%	11,971
23	jobs impacted with this proposed network	20%	2,394
24	jobs requiring significant retraining	20%	479
25	Jobs needing retraining with this proposed network (over 10 years)	0.3%	360
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	5%	\$2,277,000

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