



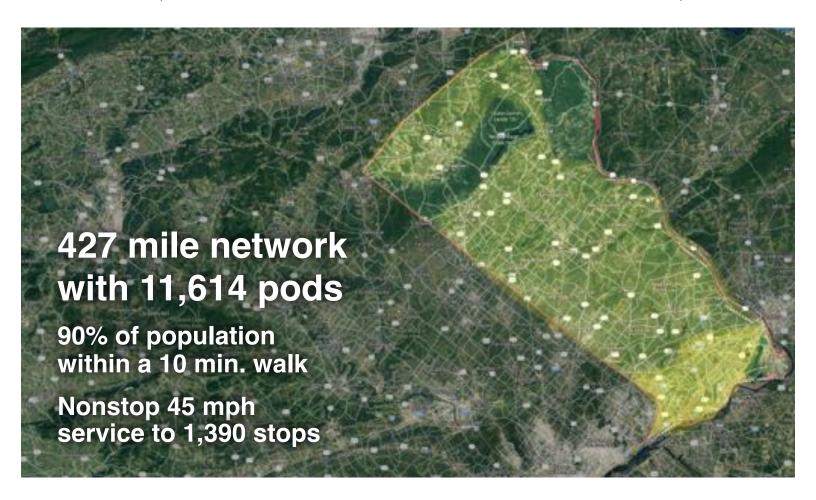
Transit X presents a preliminary proposal for a sustainable micro-rail network — a fleet of automated electric vehicles (pods) for passengers and freight on a local and regional podway providing equitable public transportation for

# **Bucks County, PA**

This proposal is downloadable at transitx.com/proposals/Transit X for Bucks County,PA.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 microrail podway to carry passengers and freight for Bucks County that makes the Transit X service convenient to 90% 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\$72 million per year average over the first 10 years.

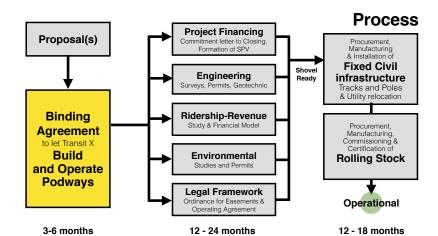
### **Short and Long Term Solution**

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



#### **Evaluation**

Please review our

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

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

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

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

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

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

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

#### Other Resources

The links below provide general information about Transit X:

- One minute video overview (transitx.com/video)
- <u>Transit X Handbook (transitx.com/transitxhandbook.pdf)</u>
- · Letters of Project Financing, Due Diligence, Contracts (transitx.com/letters.pdf)
- Memorandum of Understanding template (transitx.com/process/mou.html)
- Example Right-of-Way agreement (<u>transitx.com/process/resolution.html</u>)
- Operating Agreement (<u>transitx.com/process/operating\_agreement.html</u>)
- 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 Bucks County through better transportation.

Sincerely,



Email: rodneydixon@transitx.com or hello@transitx.com Telephone: +1 818-855-4106 (WhatsApp connected)

Zoom e-room: https://zoom.us/j/8229009123

Website: transitx.com

Twitter: http://twitter.com/TransitXCorp

Mail: 1127 Commonwealth Ave #30, Boston, MA 02134 USA





	alibita.			
1	Transit X network length	689	km	428.2 miles
2	People (resident-equivalent) in region	628,195	resident-equivalent p	oopulation
3	Route density ratio (route length to service area)	0.55		
4	Number of stops	1,390		
5	Triple-speed route length	0	km	
6	Water crossing route length	0	km	
7	Cost of fixed infrastructure	\$2,500,587,037		
8	per person	\$3,981		
9	Mode share of travel on Transit X (23% after first year)	71%	after 10 years	
10	Distance traveled by passengers on Transit X, per year	2,667,549,030	km	1,656,862,752 miles
11	per day	7,308,354		4,539,350 miles
12	Daily potential energy generation with standard panels on tracks	5,294.9	MWh	
13	Sustainable energy use per day	49.6	MWh	1.0% of max capacity
14	Energy storage capital cost for 1 day(s) of supply at \$250 per kWh	\$12,388,090		
5	Size (rated power) of solar installation	11,520	KW	
16	Cost to generate sustainable energy (at \$1,000 per kW)	\$11,520,134		
17	Cost of buying sustainable energy at \$0.15 per kWh	\$7,433	per day	2% of OPEX
18	Daily passengers riding Transit X	444,592	customers	71% of the pop.
19	Distance per passenger per day	16	km	10.2 miles
20	Average distance per trip (assuming 3 trips per day)	5	km	3.4 miles
21	Single passenger fare for shared 5 km trip	\$1.43		
22	Passenger distance traveled during peak hour	1,461,671	km	907,870 miles
23	Breakeven	203,898	customers per day (a of people convenien	46% of expected and 36% to Transit X)
24	Boarding capacity	500,400	passengers per hou	r (113% of customers)
25	Number of sode for societies and a			
	Number of bods for beak demand	11.614	pods at 71% m	ode share
	Number of pods for peak demand  Number of customers per pod		pods at 71% m	
26	Number of customers per pod	38.3	and 54 people pe	
26 27	Number of customers per pod Distance per pod per year	38.3 168,190	and 54 people per km	r pod
26 27 28	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side-parking)	38.3 168,190 12,775	and 54 people per km m <sup>2</sup>	
26 27 28	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side-parking) Cost of pods	38.3 168,190 12,775 \$75,491,000	and 54 people per km m <sup>2</sup> is \$92 per person	r pod
26 27 28 29	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side-parking) Cost of pods Capital cost of energy generation and storage	38.3 168,190 12,775 \$75,491,000	and 54 people per km m <sup>2</sup>	r pod
26 27 28 29 30 31 <b>P</b> I	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side–parking) Cost of pods Capital cost of energy generation and storage  roject Finances	38.3 168,190 12,775 \$75,491,000 \$31,080,691	and 54 people per km m <sup>2</sup> is \$92 per person	r pod
26 27 28 29 30 31 <b>P</b> I	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side–parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728	and 54 people per km m² is \$92 per person is \$49 per person	r pod  0.2% of car parking
226 227 228 229 330 PI 332	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side–parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578	and 54 people per km m² is \$92 per person is \$49 per person	r pod
26 27 28 29 30 31 <b>PI</b> 332 33 34	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side–parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618	and 54 people per km m² is \$92 per person is \$49 per person	r pod  0.2% of car parking
26 27 28 29 30 81 <b>Pi</b> 32 33 34 35	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side–parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578	and 54 people per km m² is \$92 per person is \$49 per person	r pod  0.2% of car parking
26 27 28 29 30 31 <b>Pi</b> 33 33 34 35 36	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side–parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618	and 54 people per km m² is \$92 per person is \$49 per person	r pod  0.2% of car parking
26 27 28 29 30 <b>PI</b> 32 33 34 35 36 37	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side–parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618	and 54 people per km m² is \$92 per person is \$49 per person	r pod  0.2% of car parking
26 27 28 29 30 <b>PI</b> 32 33 34 35 36 37 38	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side-parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing Debt financing  Debt service (per year)	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618 \$1,825,011,110	and 54 people per km m² is \$92 per person is \$49 per person	r pod  0.2% of car parking
26 27 28 29 30 31 <b>P</b> I 32 33 34 35 36 37 38 39 40	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side-parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing Debt financing	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618 \$1,825,011,110	and 54 people per km m² is \$92 per person is \$49 per person	r pod  0.2% of car parking
26 27 28 29 30 31 <b>Pi</b> 32 33 34 35 36 37 38 39 40 41	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side-parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing Debt financing  Debt service (per year)	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618 \$1,825,011,110	and 54 people per km m² is \$92 per person is \$49 per person	r pod  0.2% of car parking
26 27 28 29 30 31 <b>Pi</b> 32 33 34 35 36 37 38 39 40 41	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side-parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing Debt financing  Debt service (per year)	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618 \$1,825,011,110	and 54 people per km m² is \$92 per person is \$49 per person	r pod  0.2% of car parking
26 27 28 29 30 31 <b>PI</b> 32 33 34 35 36 37 38 39 40 41 42 43	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side–parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing Debt financing  Debt service (per year)  Yearly fees and taxes (US\$144 per capita)	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618 \$1,825,011,110 \$310,251,889 \$90,477,247	and 54 people per km m² is \$92 per person is \$49 per person	r pod  0.2% of car parking
26 27 28 29 30 31 <b>PI</b> 32 33 34 35 36 37 38 39 40 41 42 43	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side-parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing Debt financing Debt financing  Number of customers per pod Post of pods Capital cost of energy generation and storage  Total Project Cost Project cost per km Equity financing Debt financing  OPEX + Debt service (per year) Project costs — per person	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618 \$1,825,011,110 \$310,251,889 \$90,477,247	and 54 people per km m² is \$92 per person is \$49 per person	r pod  0.2% of car parking
26 27 28 29 30 31 <b>PI</b> 32 33 34 35 36 37 38 39 40 41 42 43 44	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side–parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing Debt financing Debt financing  Project costs = Capital  OPEX + Debt service (per year) Project costs — per person Number of motor vehicles displaced	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618 \$1,825,011,110 \$310,251,889 \$90,477,247	and 54 people perkm m² is \$92 per person is \$49 per person per km  motor vehicles	r pod  0.2% of car parking
26 27 28 29 30 31 <b>PI</b> 32 33 34 35 36 37 38 39 40 41 42 43 44	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side–parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing Debt financing Debt financing  Project cost per year)  Yearly fees and taxes (US\$144 per capita)  OPEX + Debt service + Tex + Fees  Project costs — per person Number of motor vehicles displaced Yearly cost of cars displaced — per person	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618 \$1,825,011,110 \$310,251,889 \$90,477,247	and 54 people perkm m² is \$92 per person is \$49 per person per km  motor vehicles	r pod  0.2% of car parking
26 27 28 29 30 31 <b>PI</b> 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side—parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing Debt financing Debt financing  Project costs — per person Number of motor vehicles displaced Yearly cost of cars displaced — per person Operating costs per passenger-km	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618 \$1,825,011,110 \$310,251,889 \$90,477,247 \$4,150 266,755 \$3,822 \$0.05	and 54 people perkm m² is \$92 per person is \$49 per person per km  motor vehicles	r pod  0.2% of car parking
26 27 28 29 30 31 <b>PI</b> 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side—parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing Debt financing Debt financing  Pearly fees and taxes (US\$144 per capita)  OPEXA Debt covice a tax a peec  Project costs — per person Number of motor vehicles displaced Yearly cost of cars displaced — per person Operating costs per passenger-km Full costs per passenger-km	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618 \$1,825,011,110 \$310,251,889 \$90,477,247 \$4,150 266,755 \$3,822 \$0.05 \$0.20	and 54 people perkm m² is \$92 per person is \$49 per person  per km  motor vehicles	r pod  0.2% of car parking  US\$6.1M per mi.
26 27 28 29 30	Number of customers per pod Distance per pod per year Two-layer pod garage area (3% of route with side—parking) Cost of pods Capital cost of energy generation and storage  roject Finances  Total Project Cost Project cost per km Equity financing Debt financing Debt financing  Project costs — per person Number of motor vehicles displaced Yearly cost of cars displaced — per person Operating costs per passenger-km	38.3 168,190 12,775 \$75,491,000 \$31,080,691 \$2,607,158,728 \$3,781,578 \$782,147,618 \$1,825,011,110 \$310,251,889 \$90,477,247 \$4,150 266,755 \$3,822 \$0.05	and 54 people perkm m² is \$92 per person is \$49 per person  per km  motor vehicles	r pod  0.2% of car parking



### Impact of proposed network

1	Deduction in OHO emissions (metric tone OOO em)	OOO AOO MTCOO on annually
1	Reduction in GHG emissions (metric tons CO2-eq)	263,420 MTCO2-eq annually
2	Estimated cost to maintain public roadways	\$128,924,669 annually
3	Reduced waste products	42,747 metric tons annually
4	Travel time saved (non-stop travel and congestion)	292 hrs/person annually
5	Cost savings from reduced car ownership	\$1,115 per person annually
6	Increase in household income (from time savings and car costs)	9%
7	Reported injuries avoided	1,654 annually
8	Lives saved (from safety)	17 annually
9	Land freed from parking (1,516 acres)	6,135,363 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**

	woder inpu	มเธ		
15	Ratio of road length to track length	4		
16	Walking speed		km/h	3 mph
17	Width of convenient swath along track	1.63	km	1 mile
18	Fixed cost per km (track & posts)	\$2,790,000		
19	Water crossing: additional cost per km	\$8,370,000		
20	Triple-speed: additional cost per km	\$5,580,000		
21	Rate factor for water crossings or high-speed links.	2.2		
22	Average distance traveled per person per year (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	\$0.43		
39	(per mile)	\$0.70		
40	O&M as % of project cost	5%		
41	Percentage debt financed	70%		
42	Length of loan/debt		years	
43	Interest rate for debt	7%		
44	kg CO2 emissions per liter of gasoline	2.37		
45	Monetary value of 1 hour personal time (USD)	\$13.75		
46	Eat. roadway maintenance per year per km	\$51,000	0	047 -4
47	Area of one parking lot space Commercial income of land (annual)		m²	247 sf
48	Distance from roadway that is convenient	0.49	per m <sup>2</sup>	
49	Stops per km	2.0	KIII	
50	Boarding capacity per stop	360	nnh	
51 52	Solar panel area per meter of track	2.0	ррп	
53	Cost of sustainable energy and storage		per kWh	
54	Global Horizontal Irradiance (GHI)		kWh/m²/day	
55	Cost to generate sustainable energy		per kW	
56	Storage per column		kWh	
57	Typical span	23		44
58	Energy storage cost	\$250	per kWh	
59	Energy storage capacity		days	
60	Area of parked pod	2.20	,	
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	Bucks County, PA
69	Currency name	
70	Equal to US\$1	1
71	Sustainable energy/electricity generation & storage as	CAPEX
72	Land area of region (sq. km)	1,564
73	Number of residents in region	628,195
74	% travel within region	60%
75	% of land area served by roads	80%
76	Coverage: % of pop. convenient (10 min walk) to Transit $\boldsymbol{X}$	90%
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
87	Service life (years)	20	12
88	Full cost of vehicle per year	\$200	\$9,000
89	Public cost to maintain infrastructure (per km)	\$0	\$100,000
90	Energy consumption (MPGe)	3564	24
91	Energy consumption (liters/100km)	0.07	9.8
92	Energy consumption (Watt-hours/km)	9	1375
93	mass of CO2 per vehicle per km (kg)	0	0.09875
94	Vehicle mass (kg)	45	1950
95	Average speed of urban travel (km/h)	72	16
96	Typical travel time (in minutes) for 5 km trip	5	21
97	Fare/cost per km	\$0.43	\$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



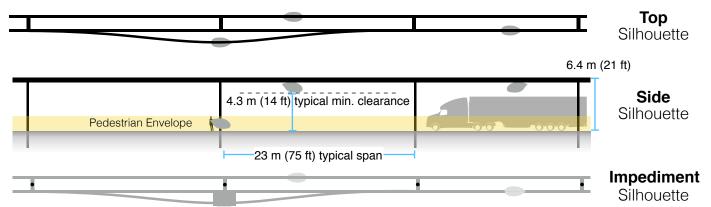
## 5% of gross revenue is paid for air rights and local taxes.

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

Total commercial land (estimated)  125,120,000 m²  30,918 acres  125,120,000 m²  137,632,000  TXCR (Transit X Commercial Rate)  \$1.10 per m² (estimated)	es
4 TXCR (Transit X Commercial Rate) \$1.10 per m <sup>2</sup> (estimated)	
4 TXCR (Transit X Commercial Rate) \$1.10 (estimated)	
TXCR is the yearly tax rate per land area. Calculation: total land area of commercial properties in the governmental region, divided by all the governmental income generated by those properties. The TXCR is used to calculate the minimum tax/fee.  \$11.84 per sf (estimated)	
7 Private Easement Fees For example	
4% of gross revenue \$26.25 per route-meter \$8.01 per	route-foot
9 <b>Minimum per year</b> \$1.63 per route-meter <b>\$0.50 per</b>	route-foot
10 Transit X payment to Government	
% of route on government easements 98% estimated	
Total air-rights and local taxes \$89,029,611 per year	
per resident \$142	
with a minimum of \$1,127,111 per year	
15	
16 Other financial benefits to Government	
17 Less road maintenance from lower VMT	
Public land made available from less parking and lanes	
19 Reduced emergency and police services for road-related incidents	

# 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 <sup>2</sup>	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 <sup>2</sup>	7298	sf
16	Area of Top Silhouette	313.1	m <sup>2</sup>	3369	sf
17	Impediment Area (adjusted)	30.7	m <sup>2</sup>	331	sf
18	` ' '				
19	Dual track	1322.1	m <sup>2</sup>	14226	sf
20	Area of Side Silhouette	678.3		7298	
21	Area of Top Silhouette	613.1		6597	-
22	Impediment Area (adjusted)	30.7		331	
23	( <b>,</b> ,				
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 <sup>2</sup>	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

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.\*

			Trip Length	
Al	I prices in USD	1 mile	6 mile	25 mile
	Transit X	<b>0.52</b> to 0.87 2 min., 3.6x faster	<b>2.57</b> to 4.31 8 min., 3.6x faster	<b>9.86</b> to 16.81 33 min., 3.4x faster
Р	ublic transit average	2.91	4.63	6.79
səpou	Taxi	<b>4.04</b> 2 to 6 minutes	<b>17.58</b> 8 to 30 minutes	<b>68.37</b> 30 to 120 minutes
Common public modes	Uber/Lyft	<b>3.07</b> 2 to 6 minutes	<b>12.66</b> 8 to 30 minutes	<b>48.60</b> 30 to 120 minutes
non p	Public Bus	<b>2.34</b> 3 to 12 minutes	<b>2.34</b> 15 to 60 minutes	<b>3.59</b> 60 to 240 minutes
Comi	Train	<b>3.52</b> 2 to 12 minutes	<b>4.14</b> 8 to 60 minutes	<b>6.49</b> 30 to 240 minutes
P	ersonal car	<b>3.35</b> 2 to 6 minutes	<b>10.52</b> 8 to 30 minutes	<b>37.40</b> 30 to 120 minutes
	Avg. Low High Speed Speed speed		lax Time Mode share ist. cost 6% 70% 24%	* All numbers on mode

	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	2.34	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	2.34	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	1.56	0	0.78	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	0.48	USD/km	Regional adjusted rate: NominalRate * RegionalFactor
13	Population	628,195		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	2,667,549,030	) 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	0.43	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	MaxDistanceDiscou nt	500	km	Max distance discount. Global constant.
21	DistanceDiscountPe rKm	0.000347	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
<ul><li>24</li><li>25</li></ul>	DiscountBaseRate SharedPodDiscount	<b>0.35</b>	USD/km	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	, ,
27	SharedCompartment Discount	40%		Discount for shared compartment. Set by Transit X per year. 25% minimum and 40% maximum.  Maximum yearly change is one percentage point.
28	SharedCompartment Rate	0.26	USD/km	Rate for shared compartment  BaseRate x (1 - SharedCompartmentDiscount)
29	SingleOccupancyMa xDistance	0.30	USD/km	Rate for 500 km in single–passenger pod.
30	Senior + SharedCompartment Rate	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	1,973,986,282	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	702,281,348	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	356,241,945	km	Cap on passenger travel distance at market rate:  DistanceBase x MarketRateCap

### **Project Summary**

**Project** A fully-automated, solar-powered, micro-rail **Description** network. A transportation utility.

**Project type Sustainable Transportation Infrastructure** 

Design, Build, Finance, Own, Operate, Maintain

(DBFOOM)

Project equity US\$782 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 \$89,029,611 per year

Benefits to

society and Extremely high environment

environment

Estimated return 19% average IRR at 5 yrs 28% average IRR at 10 yrs

Financials (US\$ in millions)	Year 1	Total Years 1-12
Gross Revenues	597	17,320
Taxes and fees	30	866
Debt service	\$128	\$1,405

### 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

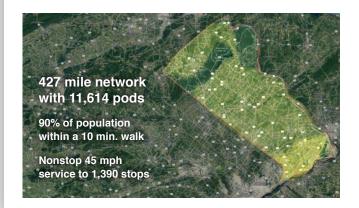




Transit X presents a preliminary proposal for a sustainable micro-rail network – a fleet of automated electric vehicles (pods) for passengers and freight on a local and regional podway providing equitable public transportation for

### **Bucks County, PA**

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



#### **About Transit X**

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

### **Status**

	Now	Prior to close		
Project financing	Available	Yes		
<b>Outdoor Test Track</b>	Nov 2019	Yes		
Rider-Revenue study	Preliminary	Yes		
<b>Environmental study</b>	udy Per region Y	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, <u>mike@transitx.com</u>, 508-596-7024



### **Model Inputs and Assumptions**

Route length (km) 689

Starting number of pods 3,833

Projected revenue growth 15%

Project Cost (Privately funded) \$2,607,158,728

% Debt financed 70%

Debt \$1,825,011,110

**Equity** \$782,147,618

Debt payment (per year) \$127,750,778

Travel per year per pod (km) 168,190

Revenue per vehicle-km (US\$) 0.93

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	597,209,037	686,790,392	789,808,951	908,280,294	1,044,522,338	1,201,200,688	1,381,380,791	1,588,587,910	1,826,876,097	2,100,907,511	2,416,043,638	2,778,450,184
5% RoW÷tax÷fee	e	0%	29,860,452	34,339,520	39,490,448	45,414,015	52,226,117	60,060,034	69,069,040	79,429,396	91,343,805	105,045,376	120,802,182	138,922,509
Debt service		0	\$127,750,778	\$127,750,778	\$127,750,778	\$127,750,778	\$127,750,778	\$127,750,778	\$127,750,778	\$127,750,778	\$127,750,778	\$127,750,778	\$127,750,778	\$127,750,778
Investor share		0	250,484,295	303,578,659	362,457,620	142,174,878	151,147,088	161,465,130	173,330,877	186,976,487	202,668,939	220,715,258	241,468,525	265,334,782
Investor share (%)	)		90%	90%	89%	29%	26%	24%	22%	20%	19%	17%	16%	15%
Share / Orig Capit	al	0%	32%	39%	46%	18%	19%	21%	22%	24%	26%	28%	31%	34%
IRR to date		loss	(68%)	(20%)	8%	14%	19%	22%	24%	26%	27%	28%	29%	29%

#### **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.