



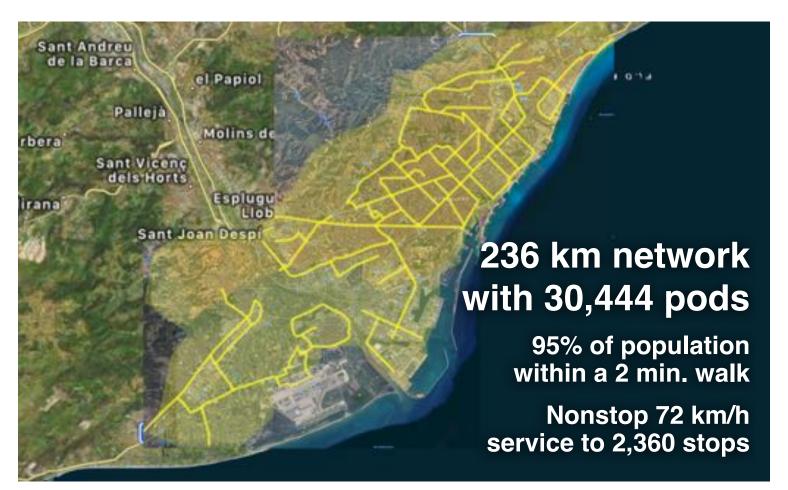
Transit X, LLC presents a preliminary proposal for a privately-funded fleet of fully-autonomous shared electric vehicles on local and regional podway network for

# Barcelona, Spain

This proposal is downloadable at transitx.com/proposals/Transit X for Barcelona, Spain.pdf

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

A 26-page companion Transit X Handbook is available at transitx.com/transitxhandbook.pdf



## **Proposal Overview**



Transit X proposes to build and operate a privately-financed pod network to carry passengers and freight for Barcelona, Spain 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.

### No public funding

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

## Proven technology

Our team and partners have built fully automated systems that are now in operation around the world. Transit X may look unique, but the underlying design is very similar to systems that have been operating for 40 years with an exemplary safety record. An in-depth (1000+ hours) technical assessment and feasibility analysis has been completed by Altran, a global engineering firm with extensive expertise in automated transit systems. The first pilots of Transit X will be deployed by the end of 2018.

Before any groundbreaking, the system will be safety-certified and fully insured.

## **Service Quality**

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

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

Transit X offers a much higher quality of life by eliminating many forms of pollution. Pods are quiet and have no emissions. Pods offer less visual impact than the existing roads and vehicles, and utility lines can be hidden within the track. At night, there is no light pollution from headlights or taillights. Water pollution from road runoff is significantly reduced.

#### Sustainable

Transit X runs on 100% sustainable energy. The energy generated from solar panels on the track and stored within the poles is sufficient in most cases, but sustainable power contracts may 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. Theses 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\$108 million

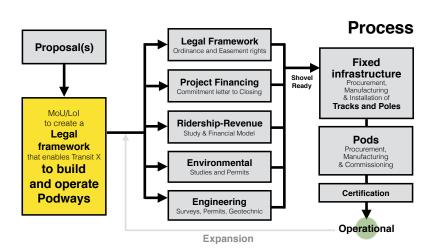
per year average over the first 10 years. For specifics, please see the "Taxes and Fees" section of this proposal. These fees and taxes paid by Transit X enables lower taxes or more spending on public services.

## **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 <a href="mailto:transitx.com/">transitx.com/</a>



### **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.

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 <a href="transitx.com/process/mou.html">transitx.com/process/mou.html</a>) stating that you intend to pass an ordinance that enables our use of air rights along with an operating agreement.

The buildout of the network would be rolled out in phases, where a first phase could be a 15 to 30 km pilot.

#### **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)
- Example Resolution (<u>transitx.com/process/resolution.html</u>)
- Operating Agreement (<u>transitx.com/process/operating\_agreement.html</u>)
- General Q & A (transitx.com/QandA.html)

#### **Addendum**

The remaining pages of this proposal provide project-specific details:

- Project Overview and Impact pages 6 and 7
- Taxes and Fees pages 8 and 9
- Fares page 10 and 11
- Financial Project Summary with Pro Forma pages 12 and 13

We look forward to working with you to improve the quality of life for Barcelona through better transportation.

Sincerely,

Mike Stanley CEO, Transit X

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







1				
	Transit X network length	236	km	
2	People (resident-equivalent) in region	1,630,931	resident-equivalent p	oopulation
3	Route density ratio (route length to service area)	2.91		
4	Number of stops	2,360		
5	Triple-speed route length	0	km	
6	Water crossing route length	0	km	
7	Cost of fixed infrastructure	\$855,646,310		
8	per person	\$525		
9	Mode share of travel on Transit X (28% after first year)	84%	after 10 years	
10	Distance traveled on Transit X, per year	9,632,938,268	km	
11	per day	26,391,612	km	
12	Daily potential energy generation with standard panels on tracks	1,812	MWh	
13	Sustainable energy use per day	130	MWh	7% of max capacity
14	Energy storage capital cost for 1 day(s) of supply at \$100 per kWh	\$12,989,596		
15	Size (rated power) of solar installation	30,199	KW	
16	Cost to generate sustainable energy (at \$1,000 per kW)	\$30,198,742		
17	Cost of buying sustainable energy at \$0.15 per kWh	\$19,484	per day	13% of OPEX
18	Daily passengers riding Transit X	1,376,134		84% of the pop.
19	Distance per passenger per day		km	
20	Average distance per trip (assuming 3 trips per day)	6	km	
21	Single passenger fare for shared 6 km trip	\$0.87	1	Euro
22	Passenger distance traveled during peak hour	5,278,322		
23	Breakeven		customers per day	
24	Bicaneven	210,210	(14% of people conv	enient to Transit X)
	Neurobey of words for wools downard	00 444		
25	Number of pods for peak demand	30,444	pods at 84% m	ode share
26				
	Number of customers per pod		and 54 people per	
27	Distance per pod per year	168,194	km	pod
27 28	Distance per pod per year Two-layer pod garage area (14% of route with side-parking)	168,194 33,488	km m <sup>2</sup>	
27 28 29	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods	168,194 33,488 \$197,886,000	$$km$ $$m^2$$ is \$93 per person	pod
27 28 29 30	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage	168,194 33,488 \$197,886,000	km m <sup>2</sup>	pod
27 28 29 30	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods	168,194 33,488 \$197,886,000	km m² is \$93 per person is \$34 per person	pod 0.2% of car parking
27 28 29 30	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage	168,194 33,488 \$197,886,000	$$km$ $$m^2$$ is \$93 per person	pod 0.2% of car parking
27 28 29 30 31 <b>Pr</b>	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  Toject Finances	168,194 33,488 \$197,886,000 \$56,144,840	km m² is \$93 per person is \$34 per person 909,935,263	pod 0.2% of car parking
27 28 29 30 31 <b>Pr</b>	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  *Toject Finances*  Total Project Cost (privately financed)	168,194 33,488 \$197,886,000 \$56,144,840 \$1,109,677,150	km m² is \$93 per person is \$34 per person 909,935,263	pod 0.2% of car parking Euro
27 28 29 30 31 <b>Pr</b> 32 33	Distance per pod per year Two-layer pod garage area (14% of route with side-parking) Cost of pods Capital cost of energy generation and storage  *Toject Finances*  Total Project Cost (privately financed) Project cost	168,194 33,488 \$197,886,000 \$56,144,840 \$1,109,677,150 \$4,703,812	km m² is \$93 per person is \$34 per person 909,935,263 per km	pod 0.2% of car parking  Euro  Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  *Toject Finances*  Total Project Cost (privately financed) Project cost Equity	168,194 33,488 \$197,886,000 \$56,144,840 \$1,109,677,150 \$4,703,812 \$332,903,145	km m <sup>2</sup> is \$93 per person is \$34 per person 909,935,263 per km 272,980,579	pod 0.2% of car parking  Euro  Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36 37	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  *Toject Finances*  Total Project Cost (privately financed) Project cost Equity	168,194 33,488 \$197,886,000 \$56,144,840 \$1,109,677,150 \$4,703,812 \$332,903,145	km m <sup>2</sup> is \$93 per person is \$34 per person 909,935,263 per km 272,980,579	pod 0.2% of car parking  Euro  Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36 37 38	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  *Toject Finances*  Total Project Cost (privately financed) Project cost Equity Private debt financing	168,194 33,488 \$197,886,000 \$56,144,840 \$1,109,677,150 \$4,703,812 \$332,903,145 \$776,774,005	km m² is \$93 per person is \$34 per person 909,935,263 per km 272,980,579 636,954,684	pod 0.2% of car parking  Euro  Euro  Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36 37 38 39	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  *Toject Finances*  Total Project Cost (privately financed) Project cost Equity Private debt financing	168,194 33,488 \$197,886,000 \$56,144,840 \$1,109,677,150 \$4,703,812 \$332,903,145 \$776,774,005	km m² is \$93 per person is \$34 per person 909,935,263 per km 272,980,579 636,954,684 95,543,203	pod 0.2% of car parking  Euro  Euro  Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36 37 38 39 40	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  *Toject Finances*  Total Project Cost (privately financed) Project cost Equity Private debt financing	168,194 33,488 \$197,886,000 \$56,144,840 \$1,109,677,150 \$4,703,812 \$332,903,145 \$776,774,005	km m² is \$93 per person is \$34 per person 909,935,263 per km 272,980,579 636,954,684	pod 0.2% of car parking  Euro  Euro  Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36 37 38 39 40 41	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  *Toject Finances*  Total Project Cost (privately financed) Project cost Equity Private debt financing	168,194 33,488 \$197,886,000 \$56,144,840 \$1,109,677,150 \$4,703,812 \$332,903,145 \$776,774,005	km m² is \$93 per person is \$34 per person 909,935,263 per km 272,980,579 636,954,684 95,543,203	pod 0.2% of car parking  Euro  Euro  Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36 37 38 39 40	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  *Toject Finances*  Total Project Cost (privately financed) Project cost Equity Private debt financing	168,194 33,488 \$197,886,000 \$56,144,840 \$1,109,677,150 \$4,703,812 \$332,903,145 \$776,774,005	km m² is \$93 per person is \$34 per person 909,935,263 per km 272,980,579 636,954,684 95,543,203	pod 0.2% of car parking  Euro  Euro  Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36 37 38 39 40 41 42	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  **Coject Finances**  Total Project Cost (privately financed) Project cost Equity Private debt financing  Debt service (per year)  Yearly fees and taxes (US\$99 per capita)	168,194 33,488 \$197,886,000 \$56,144,840 \$1,109,677,150 \$4,703,812 \$332,903,145 \$776,774,005	km m² is \$93 per person is \$34 per person 909,935,263 per km 272,980,579 636,954,684 95,543,203 132,646,862	Euro Euro Euro Euro Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36 37 38 39 40 41 42 43	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  *Toject Finances*  Total Project Cost (privately financed) Project cost Equity Private debt financing	\$1,109,677,150 \$4,703,812 \$332,903,145 \$776,774,005 \$116,516,101 \$161,764,466	km m² is \$93 per person is \$34 per person 909,935,263 per km 272,980,579 636,954,684 95,543,203 132,646,862	pod 0.2% of car parking  Euro  Euro  Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36 37 38 39 40 41 42 43 44	Distance per pod per year Two-layer pod garage area (14% of route with side-parking) Cost of pods Capital cost of energy generation and storage  *Toject Finances*  Total Project Cost (privately financed) Project cost Equity Private debt financing  Debt service (per year) Yearly fees and taxes (US\$99 per capita)  OPEX + Debt service — per person	\$1,109,677,150 \$4,703,812 \$332,903,145 \$776,774,005 \$116,516,101 \$161,764,466	km m² is \$93 per person is \$34 per person 909,935,263 per km 272,980,579 636,954,684 95,543,203 132,646,862	Euro Euro Euro Euro Euro Euro Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36 37 38 39 40 41 42 43 44 45	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  *Toject Finances*  Total Project Cost (privately financed) Project cost Equity Private debt financing  Debt service (per year) Yearly fees and taxes (US\$99 per capita)  OPEX + Debt service + Tax + Fees  Project costs — per person Number of motor vehicles displaced Yearly cost of cars displaced — per person	\$1,109,677,150 \$1,109,677,150 \$4,703,812 \$332,903,145 \$776,774,005 \$116,516,101 \$161,764,466	km m² is \$93 per person is \$34 per person 909,935,263 per km 272,980,579 636,954,684 95,543,203 132,646,862 558 motor vehicles	Euro Euro Euro Euro Euro Euro Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36 37 38 39 40 41 42 43 44 45	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  **Toject Finances**  Total Project Cost (privately financed) Project cost Equity Private debt financing  Debt service (per year)  Yearly fees and taxes (U\$\$99 per capita)  OPEXAL Debt service \( \text{Tox} \) Fees  Project costs — per person Number of motor vehicles displaced	\$680 \$6,144,466 \$1,109,677,150 \$4,703,812 \$332,903,145 \$776,774,005	km m² is \$93 per person is \$34 per person 909,935,263 per km 272,980,579 636,954,684 95,543,203 132,646,862 558 motor vehicles	Euro Euro Euro Euro Euro Euro Euro
27 28 29 30 31 <b>Pr</b> 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46	Distance per pod per year Two-layer pod garage area (14% of route with side–parking) Cost of pods Capital cost of energy generation and storage  **Total Project Cost (privately financed) Project cost Equity Private debt financing  Debt service (per year) Yearly fees and taxes (US\$99 per capita)  OPEX + Debt service = Tex + Fees  Project costs — per person Number of motor vehicles displaced Yearly cost of cars displaced — per person Operating costs per passenger-km	\$168,194 33,488 \$197,886,000 \$56,144,840 \$1,109,677,150 \$4,703,812 \$332,903,145 \$776,774,005 \$116,516,101 \$161,764,466 \$680 963,294 \$5,316 \$0.01	km m² is \$93 per person is \$34 per person 909,935,263 per km 272,980,579 636,954,684 95,543,203 132,646,862 558 motor vehicles 4,359	Euro Euro Euro Euro Euro Euro Euro



## Impact of proposed network

1	Reduction in GHG emissions (metric tons CO2-eq)	951,253 MTCO2-eq annually
2	Estimated cost to maintain public roadways	\$41,793,355 annually
3	Reduced waste products	154,368 metric tons annually
4	Travel time saved	340 hrs/person annually
5	Cost savings from reduced car ownership	\$2,752 per person annually
6	Increase in household income from time savings and car costs	18%
7	Reported injuries avoided	5,972 annually
8	Lives saved	60 annually
9	Land freed from parking (5,475 acres)	22,155,758 m <sup>2</sup>
11	Health care savings	High

## **Model Inputs**

	Model Inputs									
15	Ratio of road length to track length	4								
16	Walking speed	4.9	km/h							
17	Width of convenient swath along track	0.33	km							
18	Fixed cost per km. Solar+storage not included.	\$2,790,000	2,287,800	Euro						
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							
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	32,508	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	3.0	passengers							
32	Average passengers per pod	1.9	passengers							
	Average discount per passenger	22%								
33	Maximum passengers per pod	5	passengers							
34	Empty pods: Percentage non-revenue	25%								
35	Ex-Factory cost per pod	\$5,000	4,100	Euro						
36	Worldwide Median Income per Household (US\$)	10,000	8,200	Euro						
37	Average number of residents per household	2.3		Euro						
38	Base fare per km	\$0.23	0.2	Euro						
39	(per mile)	\$0.37	0.3	Euro						
40	O&M as % of project cost	5%								
41	Percentage debt financed	70%								
42	Length of loan/debt		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)	\$8		Euro						
46	Eat. roadway maintenance per year per km	\$51,000	41,820	Euro						
47	Area of one parking lot space		m <sup>2</sup>	E						
48	Commercial income of land (annual)	ە 0.10	per m <sup>2</sup>	Euro						
49	Distance from roadway that is convenient Stops per km	10.0	KIII							
50	Solar panel area per meter of track	2.0								
51 52	Cost of sustainable energy and storage		per kWh							
53	Global Horizontal Irradiance (GHI)		kWh/m²/day							
54	Cost to generate sustainable energy	\$1,000	,							
55	Storage per column		kWh							
56	Typical span	23		44						
57	Energy storage cost		per kWh							
58	Energy storage capacity		days							
59	Area of parked pod	2.20	-							
60	Distance discount at max distance	40%								
61	Max distance discount	500	km							
62	Max usage discount at 10,000 km per capita	50%								
63	Shared Pod Discount	20%								
64	Shared Pod Compartment Discount	40%								
65	Mode share starting discount	67%								
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## **Model Inputs (continued)**

66	Name of region or project	Barcelona, Spain
67	Currency name	Euro
68	Equal to US\$1	0.82
69	Sustainable energy/electricity generation & storage as	CAPEX
70	Land area of region (sq. km)	101.4
71	Number of residents in region	1,604,555
72	% travel within region	70%
73	% of land area served by roads	80%
74	Coverage: % of pop. convenient (2 min walk) to Transit X	95%
75	Median household income (US\$)	\$30,000
76	Convenient walk time to stop (min)	2
77	Triple-speed route length (km)	0
78	Water crossing route length (km)	0.0
79	Visitors per year	4,813,665
80	Average length of visit (days)	2
81	Solar production ratio	1.57
82	Regional Fare Factor	1.0
83	EPC costs & contingency	30%
84	Triple-speed (km/h)	242

## Pod & Car

		Pod	Car
85	Service life (years)	20	12
86	Full cost of vehicle per year	\$200	\$9,000
87	Public cost to maintain infrastructure (per km)	\$0	\$100,000
88	Energy Efficiency in MPGe	3564	24
89	Energy Efficiency in liters/100km	0.07	9.8
90	Energy used (Watt-hours/km)	9	1375
91	mass of CO2 per vehicle per km (kg)	0	0.09875
92	Vehicle mass (kg)	45	1950
93	Average speed of urban travel (km/h)	72	16
94	Typical travel time (in minutes) for 6 km trip	5	24
95	Fare/cost per km	\$0.23	\$0.62
96	Number of deaths per 100M passenger-km	0.00001	1
97	Number of injuries per 100M passenger-km	0.0006	62
98	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).

## Government Fees and Tax rate

(for calculating minimums)

2	Total commercial land (estimated)	8,112,000 m <sup>2</sup>	acres
3	Total commercial gov't revenue (US\$)	\$4,867,200	3,991,104 Euro
4	TXCR (Transit X Commercial Rate)	\$0.60 per m <sup>2</sup>	0.5 Euro
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.		

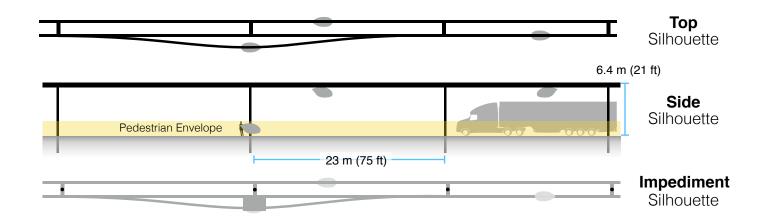
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## Private Easement Fees

8	4% of gross revenue	\$137.14 per route- meter	
9	Minimum per year	\$1.01 per route- meter	
10	Government Fees ar	nd Taxes	
11	% of route on government easements	98%	
12	5% on government easements	\$158,529,176	129,993,925 Euro
13	1% on private easements	\$647,058	
14	Total gov't fees and taxes	<b>\$159,176,234</b> per year	130,524,512 Euro
16	per resident	\$99	81 Euro
15	with a minimum of	<b>\$238,900</b> per year	195,898 Euro

## Footprint calculations for minimum fee

## Yearly fees and taxes



1	Footprint Calculations	Metric		Imperial
2	Track width	0.41	m	
3	Track height	0.61	m	
4	Pole diameter	0.3	m	
5	Pole cross section	0.07	m <sup>2</sup>	
6	Stop landing area	2	m <sup>2</sup>	
7	width	<u>2</u>	m	
8	length	1	m	
9	Ramp length	21		
10	Pole span	<u>23</u>	m	
11	Number of poles per unit length	<u>43.5</u>	poles per km	
12	Pole height	<u>6</u>	m	
13				
14	Single track	1142.1	m <sup>2</sup>	
15	Area of Side Silhouette	688.3	m <sup>2</sup>	
16	Area of Top Silhouette	423.1	m <sup>2</sup>	
17	Impediment Area (adjusted)	30.7	m <sup>2</sup>	
18	· , , ,			
19	Dual track	1552.1	m <sup>2</sup>	
20	Area of Side Silhouette	688.3		
21	Area of Top Silhouette	833.1		
22	Impediment Area (adjusted)	30.7		
23	( <b>,</b> ,			
24	Stop	67.8	m <sup>2</sup>	
25	Area of Side Silhouette	25.6		
26	Area of Top Silhouette	22.2		
27	Impediment Area (adjusted)	20.0	m²	
28				
29	Stops with dedicated landing areas	2	stops per km	
30	% of dual track	100%	otopo por turi	
31	, , , , , , , , , , , , , , , , , , , ,	.00,		
32	Average area per unit length	1,688	m² per route-km	
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		
		10		



## **Fair Fare Formula**

## Summary

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

At 0.11 Euro per km, a typical commute on Transit X is 17% less than public transit and 74% less than a Taxi.\*

**Trip Lenath** 

									1114	) Le	iig	ui	
All prices in Euro					2 k	m			1	0 ŀ	(m		40 km
Transit X				2 m	<b>0.2</b> to 0	.37	ter			<b>1 _ 1 to 1</b> .	85	ster	<b>4.23</b> to 7.20 33 min., 3.4x faster
Public transit average				1.25			1.98				2.91		
Taxi Uber/Lyft Public Bus Train			2	<b>1.7</b> to 6 m		S		8 to	<b>7.5</b> 30 m		es	<b>29.29</b> 30 to 120 minutes	
			<b>1.32</b> 2 to 6 minutes				<b>5.42</b> 8 to 30 minutes			es	<b>20.82</b> 30 to 120 minutes		
d uou	Public	Bus		3 1	<b>1.0</b> to 12 r		es		15 to	<b>1.0</b> 60 r		tes	<b>1.54</b> 60 to 240 minutes
Comr	Traiı	1		<b>1.51</b> 2 to 12 minutes				<b>1.77</b> 8 to 60 minutes		es	<b>2.78</b> 30 to 240 minutes		
Personal car			2 t	<b>1.4</b> to 6 m	_	es		8 to 3	<b>1.6</b>		tes	<b>16.56</b> 30 to 120 minutes	
Travel mode	Avg. Speed km/h	Low Speed km/h	High speed km/h	Base	Includ	Over		Max Dist.	Time cost	6%	share 70%	-	* All numbers on mode shares, speeds, and cos are rough estimates
Taxi	30	20	80	1.00	es km	0.50	0.5		0.45			1%	-
Uber/Lyft	30	20	80	0.80	1	0.40	0.5	100	0.22	10%	10%	2%	
Public Bus	15	10	40	1.00	20	0.03	0.5	50	0	50%	50%	40%	
Train	30	10	80	1.51	2	0.03	2	100	0	35%	36%	57%	

Base fares are set for first 5 years, then adjusted by formula. A 20% discount on a shared pod and a 40% discount on a shared compartment. Trips are discounted proportional to their length reaching a maximum of a 40% discount on a 500 km trip. No congestion—based pricing. Fares are proportional to the median income of the area and inversely proportional to per capita use, so the more use of Transit X, the lower the base fare up a to 50% discount. The amount of market—rate fares must be equal or less than the amount of discounted fares. Transit X Fair Fare is a universal passenger fare formula that applies to all regions and all times.

0.13

0.11 0.1 50

0.33 0.1 400

72

30

72

20

72

80

0

0.67

Transit X

Personal car



## **Fair Fare Formula**

## Fare rates are updated annually using this formula

	Formula Name	Value	Units	Description of the value or model input
1	GlobalIncome	8,200	Euro	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	0.07	Euro/km	Global rate: GlobalIncome * PercentIncomeForTransport / AllTravel
5	MedianIncomeOrigin	\$24,600	Euro	Median household income at origin. External input. Based on reliable public data source updated annually.
6	MedianIncomeDest	\$24,600	Euro	Median household income at destination. External input. Based on reliable public data updated annually.
7	RegionalRate	0.21	Euro/km	Regional rate based on median income:  MedianIncomeOrigin * PercentIncomeForTransport / AllTravel
8	UnderIncomeRate	0.00	Euro/km	Under global income adjustment: if (RegionalRate < GlobalRate, GlobalRate - RegionalRate, 0)
9	NominalRate	0.21	Euro/km	Nominal rate: RegionalRate + UnderIncomeRate
10	RegionalFactor	1.00	Furo/km	Regional Fare Factor. Negotiated upfront to make network financially viable.
11	AdjustedRate Population	0.21 1,604,555	Euro/km	Regional adjusted rate: <b>NominalRate * RegionalFactor</b> 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	9,632,938,268	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	26%		Percent of Total Travel Per Capita on Transit X:  PassengerTravel / (Population x AllTravel)
16	BaseRate	0.19	Euro/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	0.41	Euro/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.  Discount amount per km:
21	DistanceDiscountPerKm	0.000149	Euro/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	0.15	Euro/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	0.15	Euro/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	0.11	Euro/km	Rate for shared compartment  BaseRate x (1 - SharedCompartmentDiscount)
29		0.13	Euro/km	Rate for 500 km in single-passenger pod.
30	Senior + SharedCompartmentRate	0.05	Euro/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	DistanceBase	7,128,374,318	km	Passenger distance under base fare. Audited value from operational data.
32	PercentBase	74%		Percent of passenger distance under base fare:  DistanceBase / PassengerTravel
33	BaseRevenue	1,029,600,480	Euro	Annual revenue from all travel under base rate. Audited value from operational data.
34	AverageDiscount	22%		Average fare discount from Base Rate:  1 - (BaseRevenue / (DistanceDase x BaseRate))
35	MarketFactor	1.0		Market rate factor. Negotiated value for setting ratio of AverageDiscount
36	MarketRateCap	22%		Cap on passenger travel distance at market rate:  AverageDiscount x MarketFactor
37	MarketTravelCap	1,592,741,690	km	Cap on passenger travel distance at market rate:  DistanceBase x MarketRateCap

## **Project Summary**

Project Solar-powered automated

**Description** transportation network infrastructure

Project type Privately-funded Green Infrastructure

Project cost \$1.11 billion

Cost to Gov't \$0

Structure Privately financed equity and debt

Debt term 10 years @ 5%

**Equity terms** A waterfall profit distribution with:

90/10 split until Return of Capital,
 then 50/50 until Target IRR met

3. then 10/90 onwards

Taxes & Fees \$159,176,234 per year

Benefits to society and environment

Extremely high

## **Financials**

(US\$ in millions)

	Year 1	Total Years 1-12
Gross Revenues	1,068	25,998
Taxes and fees	53	1,300
Debt service	\$101	\$1006

## 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





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

## Barcelona, Spain

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 transit infrastructure to supplant buses, trains, cars, and trucks. Transit X offers its service to governments and commercial developers. First pilots will begin in 2019. Transit X is a privately held company founded in 2015, based in Boston, Massachusetts, and intends to be certified as a public benefit company.

### **Status**

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

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) 236

Starting number of pods 10,047

Projected revenue growth 15%

Project Cost (Privately funded) \$1,109,677,150

% Debt financed 70%

**Debt** \$776,774,005

Equity \$332,903,145

Capital return per year \$66,580,629

Debt payment (per year) \$100,595,787

Travel per year per pod (km) 168,194

Revenue per vehicle-km (US\$) 0.63

OPEX as % of project cost 5%

Debt Interest rate 5%

Debt term (yrs) 10

Years to return equity capital 5

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	1,067,696,483	1,227,850,955	1,412,028,599	1,623,832,889	1,867,407,822	2,147,518,995	2,469,646,844	2,840,093,871	3,266,107,952	3,756,024,145	4,319,427,766	4,967,341,931
5% RoW÷tax÷f	iee	0%	53,384,824	61,392,548	70,601,430	81,191,644	93,370,391	107,375,950	123,482,342	142,004,694	163,305,398	187,801,207	215,971,388	248,367,097
Debt service		0	\$100,595,787	\$100,595,787	\$100,595,787	\$100,595,787	\$100,595,787	\$100,595,787	\$100,595,787	\$100,595,787	\$100,595,787	\$100,595,787	0	0
Investor balance	ce		-\$168,502,769	\$11,080,796	\$208,125,029	\$425,249,030	\$665,464,764	\$932,235,991	\$1,176,281,532	\$1,455,446,712	\$1,774,999,479	\$2,140,997,968	\$2,570,468,619	\$3,061,363,738

#### **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.