



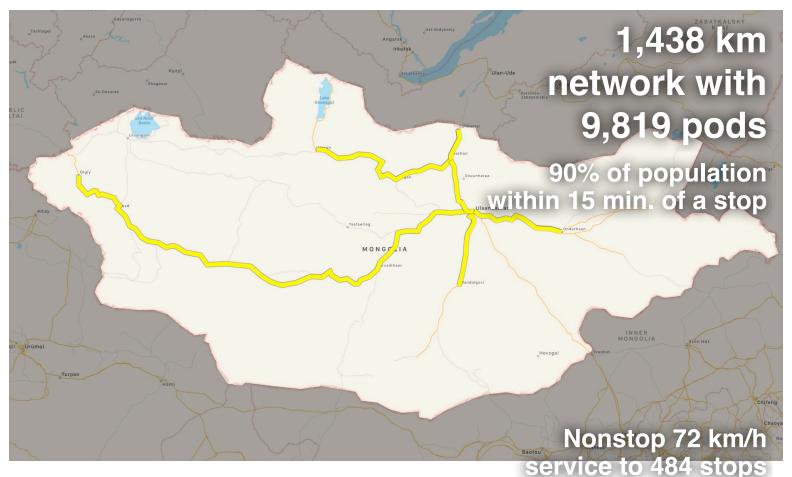
Transit X presents a preliminary proposal for a privately-financed public transit system — a fleet of automated electric vehicles (pods) for passengers and freight on a local and inter-city micro-guideway providing equitable transportation for

# Mongolia

This proposal is downloadable at <a href="mailto:transit.x">transit.x.com/proposals/Transit X for Mongolia.pdf</a>

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

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



2020-04-01



Transit X proposes to finance, build and operate a sustainable microguideway to carry passengers and freight for Mongolia 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, accessibility, sustainability, fares,



renewable energy & 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 guideway carries 12,000 pods per hour (20,000 to 50,000 passengers per hour). Two landing 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 space alongside highway and roads and integrate utility lines and poles. Non-stop interchanges fit above existing intersections. Factory-built infrastructure enables fast installation with minimal disruption. Multiple options for long crossings using bridges or underground tunnels. Posts are typically spaced at 23 m (25 yds). Multiple options for pods to traverse any grade or slope.

### 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 impact investors, private wealth funds, commercial banks, sovereign wealth funds, 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 project groundbreaking will be in 2020.

### **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 guideway. 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. Renewable energy and storage installed on our guideways and posts 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 their negative impacts. 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. We welcome labor unions.

#### **Revenue Generator**

Transit X not require government funding, and owners of the rights-of-way receive a Toll Share that is 5% of gross revenue for rights-of-way, estimated to be US\$32 million per year average over the first 10 years.

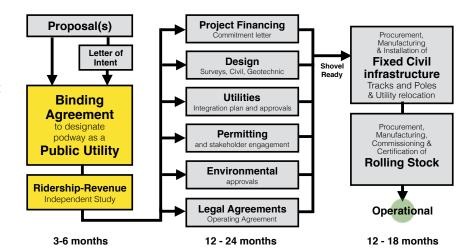
### **Short and Long Term Solution**

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 are re-invested in the community and 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. 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.

We look to a commitment for Transit X to build and operate podways along public rights-of-way, similar to other public utilities.

#### Other Resources

The links below provide general information about Transit X:

- Video presentations: <u>transitx.com/video</u> (2 min) <u>transitx.com/v</u> (5 min)
- Transit X Handbook (transitx.com/transitxhandbook.pdf)
- Company profile (transitx.com/about.pdf)
- Other proposals (transitx.com/w)
- The process and templates for agreements (<u>transitx.com/process</u>)

#### Addendum

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

- Project Overview and Impact pages 6 and 7
- Toll Share 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 Mongolia through better transportation.

Sincerely,



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Website: transitx.com

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## **Project Overview**



	Trong!! V makeraule lameth	4 400 0	1
1	Transit X network length	1,438.2	
2	People (resident-equivalent) in region		resident-equivalent population
3	Route density ratio (route length to service area)	0.09	
5	Number of stops	484	km
6	Triple-speed route length	-	km
7	Water crossing route length  Cost of fixed infrastructure	\$4,012,475,510	KIII
8			
9	per person  Mode share of travel on Transit X (4% after first year)	\$1,302	target mode share
10	Distance traveled by passengers on Transit X, per year	4,077,466,377	-
11	per day	11,171,141	
12	Daily potential energy generation on guideways	16,567.6	
13	Sustainable energy use per day		MWh 0.3% max capacity
14	Energy storage capital cost for 1 day(s) of supply at \$200 per kWh	\$8,378,604	·
15	Nominal power of solar installation to meet self-demand	9,739	
16	Cost to generate sustainable energy (at \$1,000 per kW)	\$9,739,460	
17	Cost to buy sustainable energy at \$0.08 per kWh	\$3,351	per day 1% of OPEX
18	Daily passengers riding Transit X		customers 14% of the pop.
19	Distance per passenger per day	,	km
20	Average distance per trip (assuming 3 trips per day)	9	km
21	Single passenger fare for shared 9 km trip	\$0.91	2.18 K MNT
22	Passenger distance traveled during peak hour	2 234 228	km
23	Breakeven	234 876	customers per day (56% of expected and 8% of people convenient to Transit X)
			people convenient to Transit X) passengers per hour (42% of customers)
24	Boarding capacity	,	·
25	Number of pods for peak demand	·	pods at 14% mode share
26	Number of customers per pod		and 314 people per pod
27	Distance per pod per year	168,186	
28 29	Two-layer pod garage area (2% of route with side–parking)	10,801	
30	Cost of pods		is \$16 per person
_	Capital cost of energy generation and storage	\$18,118,065	is \$6 per person
31 <b>Pr</b>	oject Finances		
32	Total Project Cost	\$4,079,688,575	9,823,890,088 <sub>K MNT</sub>
33	Project cost per km	\$2,836,735	per km
34	Equity financing	\$1,223,906,572	2,947,167,027 <sub>K MNT</sub>
35	Debt financing	\$2,855,782,002	6,876,723,062 <sub>K MNT</sub>
36			
37			
38 39			
40			
41			
42			
43			
44	Project costs — per person	\$1,324	
45	Number of motor vehicles displaced		motor vehicles
46	Yearly cost of cars displaced — per person	\$1,191	2,867 K MNT
47	Operating costs per passenger-km	\$0.05	
48	Full costs per passenger-km	\$0.10	
49	Breakeven revenue distance per day	6,306,265	KM





### Impact of proposed network

1	Reduction in GHG emissions (metric tons CO2-eq)	402,650 MTCO2-eq annually
2	Estimated cost to maintain public roadways	\$527,326,531 annually
3	Reduced waste products	65,341 metric tons annually
4	Travel time saved (non-stop travel and congestion)	476 hrs/person annually
5	Cost savings from reduced car ownership	\$4,421 per person annually
6	Increase in household income (from time savings and car costs)	307%
7	Reported injuries avoided	2,528 annually
8	Lives saved (from safety)	25 annually
9	Land freed from parking (2,317 acres)	9,378,173 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**

	•			
15	Ratio of road length to guideway length	4		
16	Walking speed	4.9	km/h	
17	Width of convenient swath along guideway	9.80	km	
18	Fixed cost per km (track & posts)	\$2,790,000	6,718,320	K MNT
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		
	Average distance traveled per person per year	40.000		
22	in a developed county 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 guideway	42,665	pph	
27	Average dwell time during peak hour		seconds	
28	% of pods traveling on route with highest demand	18%		
29	Average speed of pod		km/h	45 mph
30	Average # of trips for a daily customer		per day	10 mpn
	Average passengers per pod during peak hours		passengers	
31 32			passengers	
32	Average passengers per pod	2.5	passerigers	
	Average discount per passenger		200002000	
33	Maximum passengers per pod		passengers	
34	Empty pods: Percentage non-revenue	25%	100:0	14 h 4h 1T
35	Ex-Factory cost per pod	\$5,000	12,040	
36	Worldwide Median Income per Household (US\$)	\$10,000	24,080	
37	Average number of residents per household		people/house	K MNT
38	Base fare per km	\$0.17	0.4	K MNT
39	(per mile)	\$0.27	0.7	K MNT
40	O&M as % of revenue	20%		
41	Percentage debt financed	70%	debt	
42	Length of loan/debt	10	years	
43	Interest rate for debt	5.0%	interest	
44	kg CO2 emissions per liter of gasoline	2.37	kg/liter	
45	Monetary value of 1 hour personal time (USD)	\$0.38		K MNT
46	Est. roadway maintenance per year per km	\$100,000	240,800	K MNT
47	Area of one parking lot space		m <sup>2</sup>	
48	Commercial income of land (annual)		per m <sup>2</sup>	K MNT
49	Distance from roadway that is convenient	2.97	•	
50	Stops per km		stops/km	
51	Boarding capacity per stop	360		
52	Solar panel area per meter of guideway		m <sup>2</sup>	
53	Cost to buy sustainable energy		per kWh	
58	Cost of sustainable energy storage		per kWh	
55	Capital cost to generate sustainable energy	\$1,000		
54	Global Horizontal Irradiance (GHI)		kWh/m²/day	
56	Storage per column		kWh	
57	Typical span	23		44
59	Energy storage capacity		days	
60	Area of parked pod	2.20	m <sup>2</sup>	
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	70%		
67	Price on Carbon		/tCO2e	
07	Tille on Calbon	ψ+0	10026	

### **Model Inputs (continued)**

68	Name of region or project	Mongolia
69	Currency name	K MNT
70	Equal to US\$1	2.408
71	Energy in CAPEX or OPEX	CAPEX
72	Land area of region (sq. km)	1,566,000
73	Number of residents in region	3,081,677
74	% travel within region	98%
75	% of land area served by roads	1%
76	Coverage: % of pop. convenient (60 min walk) to Transit X	90%
77	Annual median household income (US\$)	\$1,500
8	Convenient walk time to stop (min)	60
79	Triple-speed route length (km)	0
30	Water crossing route length (km)	0.0
1	Visitors per year	0
2	Average length of visit (days)	2
13	Solar production ratio	1.57
34	Regional Fare Factor	2.0
35	Price adjust (EPC costs & contingency)	0%
36	Triple-speed (km/h)	242
37	Daily Passengers Adjustment	100%
38	Number of Stops Adjustment	100%
39	Mode Share Adjustment	100%
90	Corporate Tax Rate	10%
1	Interest Rate on Debt	5.0%

	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 9 km trip	7	34
100	Fare/cost per km	\$0.17	\$0.62
101	Number of deaths per 100M passenger-km	0.00001	0.62
102	Number of injuries per 100M passenger-km	0.0006	62
103	Volume to park (cubic meters)	5.7	70.9



### **Toll Share for Rights-of-Way**

### Rights-of-Way owners' Toll Share is 5% of gross revenue

with a minimum payment based on the Footprint and the Transit X Commercial Rate (TXCR).

### Minimum payment calculations

2	Total commercial land (estimated)	1,566,000,000 m <sup>2</sup>	acres
3	Total commercial gov't revenue (US\$)	\$46,980,000	113,127,840 K MNT
4	TXCR (Transit X Commercial Rate)	\$0.03 per m <sup>2</sup> (estimated)	0.1 K MNT

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.

6

### **Toll Share Payment**

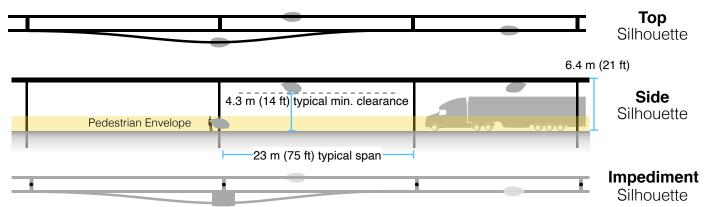
(inclusive of all fees and taxes)

8	Estimated Annual Payment at target revenue	<b>\$47,773,550</b> annually	\$16 per resident
9	with a minimum of	\$66,790 annually	160,829 K MNT
10			0 K MNT

### Other financial benefits to Government

- Less road maintenance from lower VMT
- 13 Public land made available from less parking and lanes
- 14 Reduced emergency and police services for road-related incidents
- Less investment needed in road-based infrastructure (charging stations, signals, BRT, etc)

### **Toll Share Minimum Calculation**



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

1	Footprint Calculations	Metric	Imperial
2	Guideway width	<u>0.35</u> m	
3	Guideway height	<u>0.65</u> m	
4	Post diameter	<u>0.4</u> m	
5	Post cross section	<u>0.13</u> m <sup>2</sup>	
6	Stop landing area	<u>3.75</u> m <sup>2</sup>	
7	width	<u>1.5</u> m	
8	length	<u>2.5</u> m	
9	Ramp length	<u>21</u> m	
10	Typical Span	<u>23</u> m	
11	Number of posts per unit length	<u>43.5</u> poles pe	er km
12	Post height	<u>6</u> m	
13			
14	Single guideway	1172.2 m <sup>2</sup>	
15	Area of Side Silhouette	754.3 m <sup>2</sup>	
16	Area of Top Silhouette	363.2 m <sup>2</sup>	
17	Impediment Area (adjusted)	54.6 m <sup>2</sup>	
18			
19	Dual guideway	1522.2 m <sup>2</sup>	
20	Area of Side Silhouette	754.3 m <sup>2</sup>	
21	Area of Top Silhouette	713.2 m <sup>2</sup>	
22	Impediment Area (adjusted)	54.6 m <sup>2</sup>	
23	· · · · · · · · · · · · · · · · · · ·		
24	Stop	86.3 m <sup>2</sup>	
25	Area of Side Silhouette	27.3 m <sup>2</sup>	
26	Area of Top Silhouette	21.5 m <sup>2</sup>	
07	•		
27	Impediment Area (adjusted)	37.5 m <sup>2</sup>	
28			
29	Stops with dedicated landing areas	0.3 stops pe	er km
30	% of dual guideway	100%	
31			
32	Average area per unit length	1,548 m² per r	oute-km
33			
34	Contract values		
35	Toll Share (% of gross revenue for rights-of-way)	5%	
36	Impediment Factor	10	



### **Fair Fare Formula**

Summary

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

At 0.24 K MNT per km, a typical commute on Transit X is

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

Trip L	_ength
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All prices in K MNT		2 km	10 km	40 km		
Transit X		<b>0.49</b> to 0.81 2 min., 3.6x faster	<b>2.41</b> to 4.03 8 min., 3.6x faster	<b>9.24</b> to 15.75 33 min., 3.4x faster		
	Public transit average	2.73	4.34	6.36		
sepou	Taxi	<b>3.78</b> 2 to 6 minutes	<b>16.47</b> 8 to 30 minutes	<b>64.06</b> 30 to 120 minutes		
ublic m	Uber/Lyft	<b>2.88</b> 2 to 6 minutes	<b>11.86</b> 8 to 30 minutes	<b>45.54</b> 30 to 120 minutes		
Common public modes	Public Bus  2.20 3 to 12 minutes		<b>2.20</b> 15 to 60 minutes	<b>3.37</b> 60 to 240 minutes		
Comr	Train	<b>3.29</b> 2 to 12 minutes	<b>3.88</b> 8 to 60 minutes	<b>6.08</b> 30 to 240 minutes		
	Personal car	<b>2.93</b> 2 to 6 minutes	<b>8.82</b> 8 to 30 minutes	<b>30.87</b> 30 to 120 minutes		

	Avg. Speed	Low Speed	High speed				Min Dist	Max Dist.	Time cost	Messele	<b>30%</b>	24%
Travel mode	km/h	km/h	km/h	Base	Include s km	Over per-km	km	km	per min	2	10	40
Taxi	30	20	80	2.20	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	2.20	20	0.06	0.5	50	0	50%	50%	40%
Train	30	10	80	3.29	2	0.07	2	100	0	35%	36%	57%
Transit X	72	72	72	0	0	0.24	0.1	50	0	-	-	-
Personal car	30	20	80	1.46	0	0.73	0.1	400	0.01	-	-	=

<sup>\*</sup> All numbers on mode shares, speeds, and costs are estimates based on global averages.

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. Market rate fares must account for less than half of all fares.



# **Fair Fare Formula**

# Fare rates are updated annually using this formula

	Name	Value	Units	Description of the value or model input	In USD
1	GlobalIncome	24,080	K MNT	Global median household income. Updated annually based on most recent standard published data.	10,000
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	0.21	K MNT/ km	Global rate: GlobalIncome * PercentIncomeForTransport / AllTravel	0.09
5	IncomeFirst	\$3,612	K MNT	Median household income at first stop (per person per day). External input. Based on reliable public data source updated annually.	\$1,500
6	IncomeDest	\$5,418	K MNT	Median household income at destination per trip. External input. Based on reliable public data updated annually.	\$2,250
7	RegionalRate	0.03	K MNT/ km	Regional rate based on median income:  MedianIncomeFirst * PercentIncomeForTransport / AllTravel	0.01
8	UnderIncomeRate	0.18	K MNT/ km	Under global income adjustment: if (RegionalRate < GlobalRate, GlobalRate - RegionalRate, 0)	0.07
9	NominalRate	0.21	K MNT/ km	Nominal rate: RegionalRate + UnderIncomeRate	0.09
10	RegionalFactor	2.00		Regional Fare Factor. Negotiated upfront to make network financially viable.	
11	AdjustedRate	0.42	K MNT/ km	Regional adjusted rate: NominalRate * RegionalFactor	0.17
13	Population	3,081,677		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	4,077,466,377	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	6%		Percent of Total Travel Per Capita on Transit X:  PassengerTravel / (Population x AllTravel)	
16	BaseRate	0.41	K MNT/ km	Base rate for single-passenger pod (without discounts) (1 - UsageMaxDiscount x min(1,ModeShare)) x AdjustedRate	0.17
17	SpecialRateFactor	2.20		Rate factor for water crossings or high-speed links. Global constant.	
18	SpecialBaseRate	0.89	K MNT/ km	Base rate for high-speed travel or water crossings:  BaseRate * SpecialRateFactor	0.37
19	DistanceDiscount	40%	1311	Distance discount at max distance. Global constant.	
20	MaxDistanceDiscou nt	500	km	Max distance discount. Global constant.	
21	DistanceDiscountPe rKm	0.000325	K MNT/ km	Discount amount per km:  BaseRate x DistanceDiscount / MaxDistanceDiscount	
22	SeniorDiscount	20%		Senior discount set according to local regulations	
23	StudentDiscount DisabilityDiscount	20% 20%		Student discount set according to local regulations  Disability discount set according to local regulations	
24	DiscountBaseRate	0.33	K MNT/ km	Discounted base rate: BaseRate x (1 - SeniorDiscount)	0.14
25	SharedPodDiscount	20%		Discount for requesting a shared pod. 15% minimum and 30% maximum.	
26	SharedPodRate	0.33	K MNT/ km	Rate for a shared pod: BaseRate x (1 - SharedPodDiscount)	0.14
27	SharedCompartment Discount	40%		Discount for requesting a shared compartment. 25% minimum and 40% maximum. At least 10 percentage points higher than SharedPodDiscount.	
28	SharedCompartment Rate	0.24	K MNT/	Rate for shared compartment  BaseRate x (1 - SharedCompartmentDiscount)	0.10
29	SingleOccupancyMa xDistance	0.28	K MNT/	Rate for 500 km in single–passenger pod.	
30	Senior + SharedCompartment Rate	0.12	K MNT/	Rate for a Senior taking a 500 km trip in a shared compartment.  BaseRate x (1 - SeniorDiscountAmount) x (1 - SharedCompartmentDiscount) x (1 - MaxDistanceDiscount)	0.05
31	50PctIncomeAtDest	25%		% Higher fare rate if Destination has 50% higher median income than First (IncomeDest / IncomeFirst - 1) / 2	
32	DistanceBase	3,017,325,119	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	892,926,587	K MNT	Annual revenue from all travel under base rate. Audited value from operational data.	
35	AverageDiscount	27%		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	2020 <b>4</b> 7æੱnsit X	(, LLC. All ı	Cap on passenger travel distance at market rate:  Page 11 of 14	
38	MarketTravelCap			Cap on passenger travel distance at market rate:  DistanceBase x MarketRateCap	

### **Project Summary**

**Project** A micro-guideway automated pod network **Description** providing a public transportation utility.

Project type Sustainable Transportation Infrastructure
Design, Build, Finance, Own, Operate, Maintain
(DBFOOM)

Cost to Gov't \$0

Project equity US\$1.22 billion (30% of total)

**Debt** 10 years @ 5.0% (70% of total)

Ownership Special Purpose Entity with equity investor

and regional Transit X subsidiary

Toll Share \$47,773,550 annual at revenue target

Benefits to

society and environment Extremely high

Estimated return (14%) avg. annual IRR from years 1 to 5

8% IRR at year 10

NOI / Project cost at 5 years 0.12

Discount using 15% cap rate (20%)

<b>Financials</b>			Total
(US\$ in millions)	Y	ear 1	Years 1-10
<b>Gross Revenues</b>	\$	287	7,769
Toll Share	\$	14	388
Debt service	\$	150	1,649

### **ESG Benefits** (Environmental, Social, Governance)

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 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

### Mongolia

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



#### **About Transit X**

Transit X finances, designs, builds, and operates sustainable micro-guideway public transit podways to supplant buses, trains, cars, and trucks. Transit X offers its service to governments and commercial developers. Maiden Flight occurred on Oct 29, 2018 and pilot projects started in 2019. First pilots will break ground in 2020 and begin operations in 2021. Transit X is a privately held company founded in 2015. Based in Boston, Massachusetts, US

### **Status**

	Now	Prior to close
Project financing	Available	Yes
Test System	2018	Yes
Rider-Revenue study	Internal model	Yes
Environmental study	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

See NOTICE on page 13. Supporting documentation can be provided by contacting hello@transitx.com, 508-596-7024

### 10-year Pro Forma

### **Model Inputs and Assumptions**

1	Route length (km, miles)	1,438	891	13	Travel per year per pod (km)	168,186
2	Starting number of pods	2,946		14	Revenue per vehicle-km (US\$)	0.58
3	Revenue ramp up rate	40%		15	OPEX as % of Revenue	20%
4	Project Cost (Privately funded)	\$4,079,688,575		16	Debt Interest rate	5.0%
5	% Debt financed	70%		17	Debt term (yrs)	10
6	Debt (incl. Interest during construction)	\$2,998,571,103		18	Exchange rate	Constant
7	Equity	\$1,223,906,572		19	Inflation	Zero
8	Annual Debt payment	\$149,928,555		20	Depreciation	0%
9	Effective corporate tax rate	10%		21	P-Revenue per vehicle-km from base fare	\$0.22
10	Preferred Dividend Rate	0%		22	Market rate revenue factor	2.1
11	Revenue per route-km at target rev.	\$0.66M		23	P-Revenue per vehicle-km from market fare	\$0.12
12	Construction Duration (months)	12		24	Passenger revenue per vehicle-km	\$0.35
				25	Percentage of revenue from passengers	60%
				26	Non-passenger revenue per vehicle-km	\$0.23
		_	_			

(currency in thousand US\$)

#### Pro Forma

	(currency in thousand	029	)			- 7 -							
	Yea	ars ►	0	1	2	3	4	5	6	7	8	9	10
1	INCOME STATEMENT												
2	Net Revenues	\$	0	286,670	401,339	561,874	786,624	955,471	955,471	955,471	955,471	955,471	955,471
3	Number of pods in operation	\$	0	2,946	4,124	5,774	8,084	9,819	9,819	9,819	9,819	9,819	9,819
4	% of target revenue		0%	30%	42%	<b>59</b> %	82%	100%	100%	100%	100%	100%	100%
5	Operating Costs	\$	0	71,668	100,335	140,469	196,656	238,868	238,868	238,868	238,868	238,868	238,868
6	Toll Share	\$	0.00	14,334	20,067	28,094	39,331	47,774	47,774	47,774	47,774	47,774	47,774
7	OPEX	\$	0	57,334	80,268	112,375	157,325	191,094	191,094	191,094	191,094	191,094	191,094
8	Depreciation	\$	0	0	0	0	0	0	0	0	0	0	0
9	EBIT	\$	0	215,003	301,004	421,406	589,968	716,603	716,603	716,603	716,603	716,603	716,603
10	Interest Payment	\$	149,929	149,929	149,929	149,929	149,929	149,929	149,929	149,929	149,929	149,929	149,929
11	Taxes	\$	0	6,507	15,108	27,148	44,004	56,667	56,667	56,667	56,667	56,667	56,667
12	Net Operating Income (NOI)	\$	(149,929)	58,567	135,968	244,329	396,035	510,007	510,007	510,007	510,007	510,007	510,007
13	BALANCE SHEET												
14	Total Assets	\$	4,188,113	4,194,005	4,202,253	4,213,802	4,222,478	4,222,478	4,222,478	4,222,478	4,222,478	4,222,478	4,222,478
15	Cash & Marketable Secur. (BOP)												
16	Fixed Assets (acquisition cost)	\$	4,188,113	4,194,005	4,202,253	4,213,802	4,222,478	4,222,478	4,222,478	4,222,478	4,222,478	4,222,478	4,222,478
17	Depreciation	\$	0	0	0	0	0	0	0	0	0	0	0
18	Accumulated Depreciation	\$	0	0	0	0	0	0	0	0	0	0	0
19	Total Liabilities	\$	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571
20	Debt	\$	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571	2,998,571
21	Equity	\$	1,223,907	1,282,473	1,418,441	1,662,771	2,058,806	2,568,813	3,078,821	3,588,828	4,098,835	4,608,842	5,118,849
22	Capital	\$	1,223,907	1,223,907	1,223,907	1,223,907	1,223,907	1,223,907	1,223,907	1,223,907	1,223,907	1,223,907	1,223,907
23	Retained Earnings	\$	0	58,567	194,535	438,864	834,900	1,344,907	1,854,914	2,364,921	2,874,928	3,384,936	3,894,943
24	CASH FLOW												
25	Free Cash Flow	\$	(4,188,113)	209,111	292,755	409,857	581,292	716,603	716,603	716,603	716,603	716,603	716,603
26	Cash From Operations	\$	0	215,003	301,004	421,406	589,968	716,603	716,603	716,603	716,603	716,603	716,603
27	Increases in Working Capital	\$	0	0	0	0	0	0	0	0	0	0	0
28	CAPEX	\$	4,188,113	\$5,892	\$8,249	\$11,548	\$8,676	\$0	\$0	\$0	\$0	\$0	\$0
29	Fixed Infrastructure	\$	4,012,476	0	0	0	0	0	0	0	0	0	0
30	Energy	\$	18,118	0	0	0	0	0	0	0	0	0	0
31	Pods	\$	14,730	5,892	8,249	11,548	8,676	0	0	0	0	0	0
32	Interest during construction	\$	142,789	0	0	0	0	0	0	0	0	0	0
33	Cash Flow From/To Finance	\$	4,072,549	(149,929)	(149,929)	(149,929)	(149,929)	(149,929)	(149,929)	(149,929)	(149,929)	(149,929)	(149,929)
34	Cash From/To Equity Investors	\$	1,223,907	0	0	0	0	0	0	0	0	0	0
35	Cash From/To Debt (Principal)	\$	2,998,571	0	0	0	0	0	0	0	0	0	0
36	Dividends	\$	0	0	0	0	0	0	0	0	0	0	0
37													
38													
39													
40													
41	Carbon Offset Credits (\$)	\$	0	4,832	6,765	9,471	13,260	16,106	16,106	16,106	16,106	16,106	16,106

IMPORTANT NOTICE: 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 652,800 new jobs in manufacturing, construction, and operations. About 37,000 existing transportation jobs would be impacted — of which 1,000 workers would need significant retraining. Improving the transportation infrastructure will boost the economy overall and lead to 1,409,400 new jobs. Lowering the cost of transportation and reducing travel times raises household income by 307%.

1	Annual median household income (US\$)	\$1,500	
2	CAPEX		
3	Average gross CAPEX salary (% of median HH)	125%	
4	Average gross CAPEX salary	\$1,875	
5	% of CAPEX as salary	15%	
6	Years of CAPEX	2	
7	# of CAPEX jobs	163,190	
8	% of jobs that are manufacturing vs. construction	75%	
9	Manufacturing jobs	122,390	
10	Construction jobs	40,800	
11	Supply chain jobs factor	3	
12	Jobs in supply chain	489,570	
13	Average gross OPEX salary (% of median HH)	115%	
14	Average gross OPEX salary	\$1,725	
15	% of OPEX as salary	30%	
16	Operations and Maintenance jobs	33,230	
17	Secondary-effect jobs factor	7%	
18	Secondary effect jobs	1,409,350	
19	Job transitioning and training		
20	Expected mode share at 10 years (from page 6, line 9)	14%	
21	% of population with a full-time job	60%	1,849,006
22	jobs in transportation	10%	184,901
23	jobs impacted with this proposed network	20%	36,980
24	jobs requiring significant retraining	20%	7,396
25	Jobs needing retraining with this proposed network (over 10 years)	0.1%	1,000
26	Training cost per person as % of salary (from line 13)	100%	\$1,725
27	Number of years that training is divided across	10	
28	Ratio (as %) of training costs vs. gov't revenue from Transit X	0%	\$172,500

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