

Sanchez, Rodzandra (COE)

From: Perez, Martha D. (COE)
Sent: Monday, January 28, 2019 3:07 PM
To: Sanchez, Rodzandra (COE)
Subject: FW: INQ 19-06, Stephan Statlander, Transit X (Section 2-11.1(s), County Ethics Code- Lobbying; Contingency Fees)
Attachments: INQ Statlander.docx; Transit X for Monroe County, FL Revised.pdf



From: Perez, Martha D. (COE)
Sent: Monday, January 28, 2019 3:02 PM
To: 'Stefan Statlander' <srstatlander@gmail.com>
Cc: Arrojo, Jose (COE) <Jose.Arrojo@miamidade.gov>; Murawski, Michael P. (COE) <Michael.Murawski@miamidade.gov>; Diaz-Greco, Gilma M. (COE) <Gilma.Diaz-Greco@miamidade.gov>; Turay, Radia (COE) <Radia.Turay@miamidade.gov>
Subject: INQ 19-06, Stephan Statlander, Transit X (Section 2-11.1(s), County Ethics Code- Lobbying; Contingency Fees)

Dear Mr. Statlander,

Thank you for contacting the Miami-Dade Commission on Ethics and Public Trust and requesting our guidance. Attached is INQ 19-06 addressing your questions. Do not hesitate to contact me if you need further assistance.

Best regards,

Martha D. Perez
Staff Attorney
MIAMI-DADE COUNTY COMMISSION ON ETHICS & PUBLIC TRUST
19 West Flagler St. Suite 820
Miami, FL 33130
(305)350-0656
PEREZMD@miamidade.gov

This email and any attachments are for the exclusive and confidential use of the intended recipient(s). If you are not an intended recipient, please do not read, distribute or take action in reliance upon this message. If you have received this in error, please notify me immediately by return email and promptly delete this message and its attachments from your computer. Miami-Dade County is a public entity subject to Florida's public record laws. Any communication with this office, including e-mail messages, could be considered a public record subject to disclosure.



MIAMI-DADE COMMISSION ON ETHICS AND PUBLIC TRUST

19 West Flagler Street, Suite 820 Miami, Florida 33130

Phone: (305) 579-2594 Facsimile: (305) 579-0273

Website: ethics.miamidade.gov

MEMORANDUM

TO: Stephan Statlander
Transit X, LLC

FROM: Martha D. Perez
Staff Attorney

SUBJECT: INQ 19-06 (§2-11.1(s), Prohibited Contingency Fees, Lobbying)

DATE: January 28, 2019

CC: All COE Legal Staff

Facts: You have submitted the following inquiry to our office regarding Miami-Dade County's Lobbying ordinance found at Section 2-11.1(s) of the County Ethics Code. First, you ask whether an employee of a principal company who presents an unsolicited proposal for a transportation system to the County is required to register as a lobbyist. Secondly, you ask, in the event the principal company is awarded a contract with the County, whether the employee/lobbyist is prohibited from receiving a performance budget or a profit-sharing award tied to the principal's profit.

You have included a preliminary proposal which was presented to Monroe County and prepared by Transit X, LLC, a privately-held company headquartered in Boston, MA, for privately-funded shared mobility service, as an example of the literature your company sends out to counties, municipalities and developers.

Discussion: Miami-Dade County's Lobbyist ordinance defines a lobbyist as a person who is employed or retained by a principal "who seeks to encourage the passage, defeat, or modification" of resolutions, ordinances, actions or decisions which will be made or *will be foreseeably heard or reviewed* by the County Commission, Mayor, board or committee.

Where nothing is pending before the County board(s); no proposal has been formalized or written; and, no issues related to these activities are currently or foreseeably pending in the County, sending literature such as the one you have attached, without more, does not require lobbyist registration. (INQ 15-47, INQ 12-75) However, where the intent of the

principal company is to present, follow up and engage in further communication with the County to persuade or influence the County to obtain its product or service, such actions require lobbyist registration, even if there is no solicitation pending before the government entity. (Section 2-11.1[s], County Ethics Code)

Regarding the prohibited contingency fee arrangements, the ordinance states that, “no person may, in whole or in part, pay, give...agree to pay or give another person.... [or] receive or agree to receive a contingency fee. ‘Contingency fee’ means a fee, bonus, commission, or non-monetary benefit or compensation which is dependent on or in any way contingent on the passage, defeat or modification of [official government action].” (Section 2-11.1[s] [(7)]) While this provision does not prohibit lobbying, it restricts the form of compensation that a principal is permitted to give, or a lobbyist is permitted to accept, if he or she is representing the interests of the principal (lobbying) before the County or its municipalities while protecting against any potential tendencies to corrupt the government process which may develop when lobbyist compensation is contingent on obtaining the desired action.

A person who is employed or retained by a principal and has been assigned to represent the interests of that principal may lobby as long as the entire, definitive amount of compensation *related to the lobbying activities* is established at the time that the person lobbies and such amount is not dependent on the success or failure of the lobbying efforts. (INQ 12-132). Generally, the prohibition has been applied to instances where the principal hires an outside lobbyist or lobbying firm to represent its interests and advocate for the award of the contract. In RQO 04-208, the Ethics Commission concluded that a principal client may not give a lobbyist, who is also a contractor for the principal, a percentage of the awarded contract as compensation for his successful lobbying efforts but rather, any compensation derived from the contract must be limited to the contractor’s scope of services (as a contractor) under the contract.

An exception has been made for employees of the principal whose duties include lobbying on behalf of their employers. For example, the Lobbying ordinance does not prohibit a salesperson from lobbying on behalf of his or her company and receiving compensation or commission as part of a *bona fide* practice of that company provided such compensation or commission is *ordinary and customary* in the industry. (RQO 06-34; INQ 12-231) In general, these commission percentages are awarded based on the profit of the sale in question.

If the company’s *customary and established practice* is to engage in profit sharing depending on the company’s profits or provide task/performance bonuses for their overall contribution to the success of the company’s business, such arrangement does not appear to be prohibited by the Lobbying ordinance because it is an established practice and the distribution/allocation method has already been determined.

You have advised that Transit X employees are responsible for developing new markets as commissioned salespersons for the company thereby engaging in lobbying activities to further this outcome. To that end, their involvement in sales includes engaging in lobbying efforts on behalf of the company. The company's policy with regard to the allocation of performance bonuses and/or profit-sharing includes the allocation of a 3% commission based on the capitalization value of the transit network in question.

Opinion: Consequently, whether the employee-lobbyist receives profit sharing or a performance bonus because of the company's profits, including the profits derived from the contract award, will depend on the customary, established practice of the company. You describe an arrangement akin to the commission awarded to traditional salespersons in other industries which is not prohibited by the County Ethics Code.

This opinion is limited to the facts as you presented them to the Commission on Ethics and is limited to an interpretation of the County Ethics Code only and is not intended to interpret state laws. Questions regarding state ethics laws should be addressed to the Florida Commission on Ethics.

INQs are informal ethics opinions provided by the legal staff after being reviewed and approved by the Executive Director. INQs deal with opinions previously addressed in public session by the Ethics Commission or within the plain meaning of the County Ethics Code. RQOs are opinions provided by the Miami-Dade Commission on Ethics and Public Trust when the subject matter is of great public importance or where there is insufficient precedent. While these are informal opinions, covered parties that act contrary to the opinion may be referred to the Advocate for preliminary review or investigation and may be subject to a formal Complaint filed with the Commission on Ethics and Public Trust.



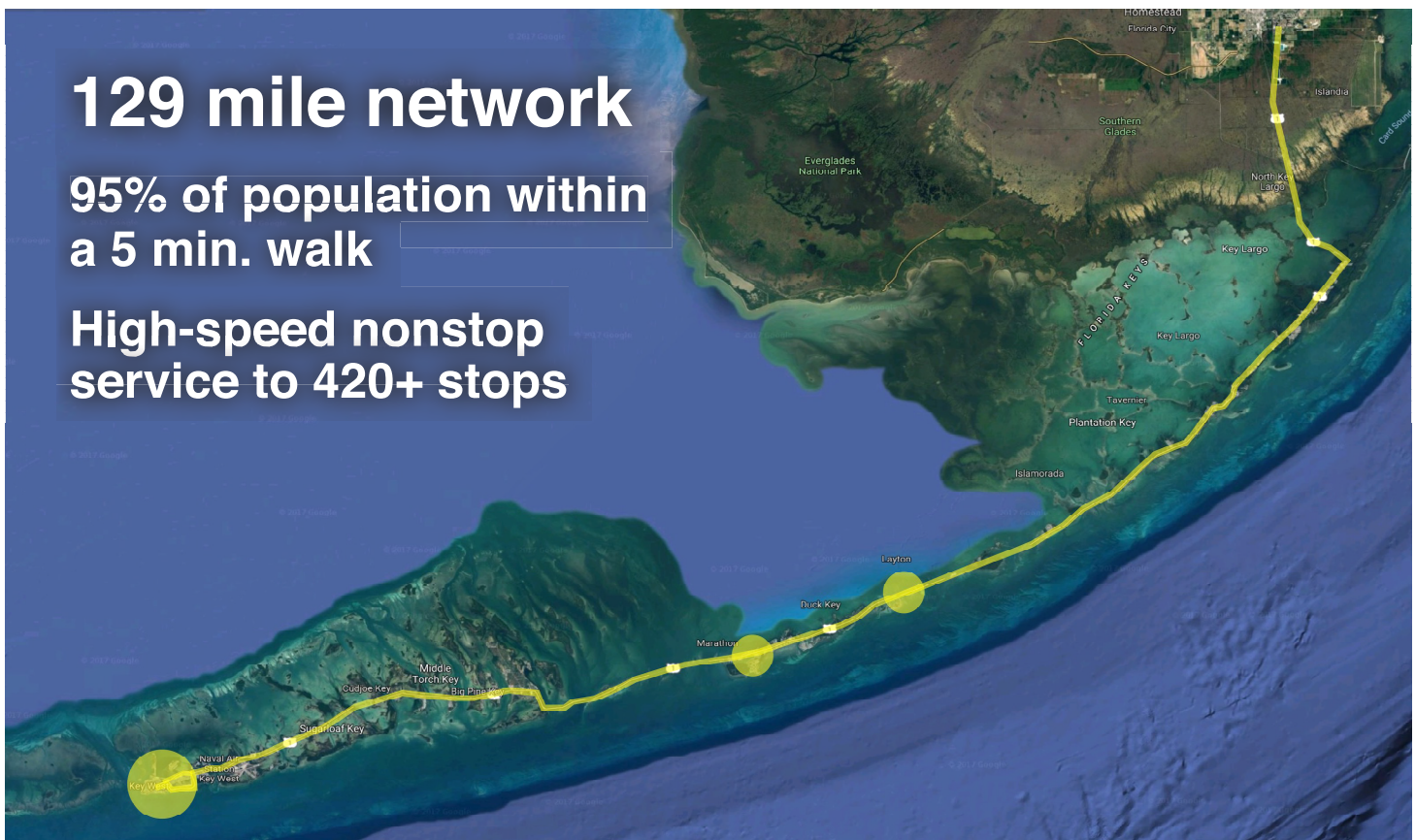
Transit X, LLC presents a preliminary proposal for

Monroe County, Florida

For a privately-funded shared mobility service that is

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

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



Transit X proposes to build and operate a privately-financed automated pod network in Monroe County, Florida that makes the Transit X service convenient to 95% of the population.

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

Major benefits

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



The Transit X Handbook (transitx.com/transitxhandbook.pdf) answers many questions about our service, the company, our technology, and the way we address: congestion, parking, road safety, pedestrian safety, ADA compliance, sustainability, fares, solar+storage, construction, aesthetics, operations, economic development, quality of service, security, station footprint, equitability, carbon footprint, transit integration, resiliency, reliability, rights-of-way, and open space.

Congestion, parking, pollution, and safety

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

No public funding

Transit X does not require public funding because our business model appeals to investment banks and private equity firms that provide our project financing. Most of our infrastructure is factory-built, so that installation is fast and not disruptive. We have reduced or eliminated many costs of transportation infrastructure including materials, land, construction, fuel, debt service, and driver costs. Our approach to significantly reducing costs makes private financing possible.

Proven technology

Our team and partners have built fully automated transit systems that are now in operation — Morgantown, WV, BART, and several others in Europe. 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. Altran is 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.

Quality Service

Transit X provides on-demand, last-mile service that is superior to cars or buses. A service level 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 and has a zero carbon footprint. The energy generated from solar panels on the track and stored within the poles is sufficient in most cases, but sustainable power contracts would provide backup power. Transit X makes it possible to reduce the amount of impervious surfaces and increase green space by reducing the need for parking and roads.

More transit & less cars

Transit X provides the convenience and privacy that people value in cars, yet without the negative impacts from personal car use. Transit X combines the best of mass transit and personal transportation modes which will lead to higher use of mass transit and less use of personal vehicles.

De-risking projects

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

We will work with regional urban planning and construction firms who are familiar with local codes and requirements.

Jobs and workforce development

Many jobs are created to build a new transportation infrastructure and transition away from roads. Municipalities that first embrace Transit X will be offered the opportunity to have Transit X manufacturing and assembly jobs in their area. The vast majority of the construction jobs will be locally sourced. Preferential hiring would be given to those workers potentially displaced by the transition to automated vehicles.

Revenue generator

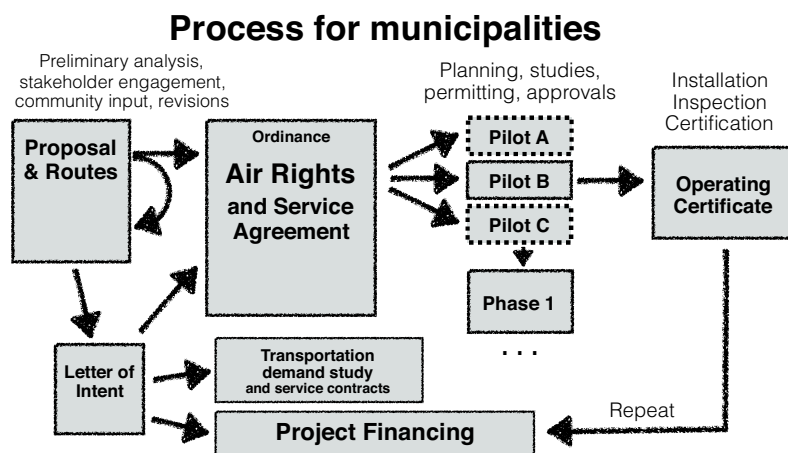
Not only does Transit X not require public financing, but the local municipality receives 5% of gross revenue. For specifics, please see the "Taxes and Fees" section of this proposal.

Short and long term

A project could be operational within 24 months from the start of a project. Transit X offers a short term 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 municipality. We would refine a proposal to meet your needs, then ask for a letter stating that you would like to move forward with a proposal that includes air rights and a service agreement. Example documents and a sample project schedule can be viewed at transitx.com/process



Evaluation

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

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

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

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

Whatever process you use to evaluate this proposal, Transit X is open to working with you on refining this proposal to meet your needs. We hope you will conclude that moving forward with Transit X is an excellent opportunity to meet your current and future challenges.

Once we agree on how to move forward, we would ask for a letter (example at transitx.com/process/loi.html) stating that you intend to pass an ordinance for use of air rights along with a service 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 resources below provide more general information:

- Transit X Handbook (transitx.com/transitxhandbook.pdf)
- Video overview (transitx.com/video)
- Letters of Project Financing, Due Diligence, Contracts (transitx.com/letters.pdf)
- Sample Ordinance (transitx.com/process/ordinance.html)
- Service Agreement (transitx.com/process/service_agreement.html)
- General Q & A (transitx.com/QandA.html)

Addendum

The remaining pages of this proposal provide more details specific to this project:

- Financial Project Summary with Pro Forma, pages 6-7
- Project Overview, Impact, and Assumptions, pages 8-9
- Taxes and Fees with Footprint, pages 10-11
- Fair Fare Policy, page 12

We look forward to working with you to improve the quality of life in Monroe County through better transportation.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Stanley", with a stylized, flowing script.

Mike Stanley
CEO, Transit X

Direct: +1 508-596-7024

Email: mike@transitx.com

Website: transitx.com

LinkedIn: <http://linkedin.com/in/mikestanleymit/>

Skype: mikestanley49

WeChat: MikeTransitX

WhatsApp: +1 508-596-7024

Twitter: <https://twitter.com/MikeTransitX>

Facebook: <https://www.facebook.com/mike.stanley.526875>

Zoom eRoom: <https://zoom.us/j/8229009123>

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

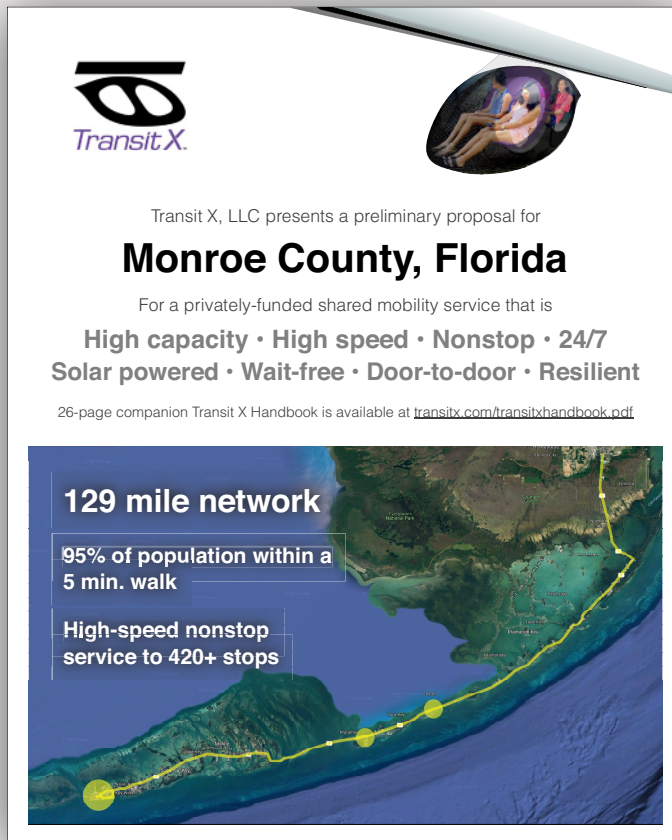
Project Description	Solar-powered automated transportation network infrastructure
Project type	Project financing of Green Infrastructure
Project cost	\$997 million
Projected IRR	37%
Cap rate	40%
Structure	Equity and Debt
Debt term	10 years @ 5%
Equity terms	15 years with 15% Target IRR With a waterfall profit distribution of: 1. 90/10 split until Return of Capital, 2. then 50/50 until Target IRR met 3. then 10/90
Benefits to society and environment	Extremely high

Financials

(US Dollars in millions)	Year 1	Total Years 1-10
Gross Revenues*	469	7,865
Operating Expenses	73	842
Debt service	\$90	\$904
Net Operating Income	\$306	\$6,119

ESG (Environmental, Social, Governance) Benefits

Clean energy	yes	Resiliency	yes
Energy security	yes	Sustainable	yes
Emissions-free	yes	Equitable	yes
GHG-free	yes	Recyclable mat.	yes
Lowers pollution	yes	Affordable housing	yes
Clean water	yes	Improved Health	yes
Improved Safety	yes	Economic Devel.	yes
Fix Infrastructure	yes	Food security	yes



Transit X, LLC presents a preliminary proposal for

Monroe County, Florida

For a privately-funded shared mobility service that is

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

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

129 mile network
 95% of population within a 5 min. walk
 High-speed nonstop service to 420+ stops

About Transit X

Transit X designs, builds, and operates solar-electric shared mobility infrastructure to supplant buses, trains, cars, and trucks. Transit X offers its service to municipalities and commercial developers. A demonstration system will be ready in early 2018, and pilots will begin by 2019. Transit X is a privately held company founded in 2015, based in Boston, Mass, and intends to be certified as a public benefit company.

Status

	Now	Prior to close
Project financing	Letter of Interest	Yes
Proven concept	Yes	Yes
Demonstration system	In development	Yes
Ridership study		Yes
Environmental study		Yes
Air rights	Letter of Intent	Ordinance
Permits	Known process	Yes
Safety certification	Guar. fixed price	Yes
Construction (BOP):	Letter of intent	Guar. fixed price
Operations & Maint:	Letter of intent	Guar. fixed price
Project Engineering	TBD	25% design

General information available at transitx.com. Detailed information and references can be provided under appropriate non-disclosure/non-compete/non-circumvent agreements. Contact: Mike Stanley, CEO, Transit X, mike@transitx.com, 508-596-7024



15 year Pro Forma

Model Inputs and Assumptions

Route length (km)	207
Starting Pods	3,733
Projected revenue growth	15%
Revenue includes passenger fares, but excludes revenue from freight, advertising, developer fees, private leasing, private branch & stops, subsidies, muni contracts, carbon credits, conduit leasing, 3rd party services, para-transit, private shuttles, and naming rights.	
Project Cost	\$997,199,463
% Debt financed	70%
Debt	\$698,039,624
Equity	\$299,159,839
Capital return per year	\$59,831,968
Target IRR	15%
Target return per year	\$44,873,976
Debt payment (per year)	\$90,399,325

Travel per year per pod (km)	210,238
Revenue per vehicle-km (US\$)	0.60
Cost per pod	\$5,000
OPEX as % of project cost	5%
OPEX as % of revenue	5%
Debt Interest rate	5%
Debt term (yrs)	10
Equity term (yrs)	15
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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Revenue	0	468,536,119	538,816,537	619,639,017	712,584,870	819,472,600	942,393,490	1,083,752,513	1,246,315,390	1,433,262,699	1,648,252,104	1,895,489,919	2,179,813,407	2,506,785,418	2,882,803,231
OPEX	0	73,286,779	76,800,800	80,841,924	85,489,217	90,833,603	96,979,648	104,047,599	112,175,743	121,523,108	132,272,578	144,634,469	158,850,644	175,199,244	194,000,135
Debt service	0	\$90,399,325	\$90,399,325	\$90,399,325	\$90,399,325	\$90,399,325	\$90,399,325	\$90,399,325	\$90,399,325	\$90,399,325	\$90,399,325	0	0	0	0
Free cash flow	0	304,850,015	371,616,412	448,397,768	536,696,328	638,239,672	755,014,518	889,305,590	1,043,740,323	1,221,340,266	1,425,580,201	1,750,855,450	2,020,962,764	2,331,586,174	2,688,803,097
Waterfall distribution															
1. Capital return	0	\$59,831,968	\$59,831,968	\$59,831,968	\$59,831,968	\$59,831,968	0	0	0	0	0	0	0	0	0
2. Expected return	0	\$44,873,976	\$44,873,976	\$44,873,976	\$44,873,976	\$44,873,976	\$44,873,976	\$44,873,976	\$44,873,976	\$44,873,976	\$44,873,976	\$44,873,976	\$44,873,976	\$44,873,976	\$44,873,976
3. Over Exp return	0	200,144,071	266,910,468	343,691,825	431,990,385	533,533,728	710,140,542	844,431,614	998,866,347	1,176,466,290	1,380,706,225	1,705,981,475	1,976,088,788	2,286,712,199	2,643,929,121
Investor share	0	96,300,166	102,976,806	110,654,941	119,484,797	129,639,132	93,451,042	106,880,149	122,323,623	140,083,617	160,507,610	193,035,135	220,045,867	251,108,208	286,829,900
Investor share %		32%	28%	25%	22%	20%	12%	12%	12%	11%	11%	11%	11%	11%	11%
Investor IRR	0%	12%	14%	17%	20%	23%	31%	36%	41%	47%	54%	65%	74%	84%	96%
Investor balance	\$ (299,151,573)	\$ (202,859,673)	\$ (99,882,867)	\$ 10,772,074	\$ 130,256,872	\$ 259,896,003	\$ 353,347,045	\$ 460,227,195	\$ 582,550,817	\$ 722,634,434	\$ 883,142,045	\$ 1,076,177,180	\$ 1,296,223,047	\$ 1,547,331,255	\$ 1,834,161,155
Investor IRR to date	loss	-68%	-23%	2%	16%	24%	27%	30%	32%	33%	34%	35%	36%	37%	37%
5% RoW+tax+fee	0%	23,426,806	26,940,827	30,981,951	35,629,243	40,973,630	47,119,674	54,187,626	62,315,770	71,663,135	82,412,605	94,774,496	108,990,670	125,339,271	144,140,162

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.

Land area of region	2,546	km ²	982.2 sq miles
Number of people in region (residents + visitors)	238,767		
Travel distance per year by all people (residents and visitors)	3,462,121,500	km	2,150,386,025 miles
Percentage of all travel that occurs within the region	80%		
Road coverage (percent of area conveniently served by paved roads)	7%		
Service area size	178.2	km ²	68.8 sq miles
Coverage: percent of people convenient (5 min walk) to Transit X	95%		
Estimate #1 for network length based on desired coverage	207	km	128.8 miles
Length of paved roads in region	720	km	447.3 miles
Estimate #2 for network length based on length of public roadways	171	km	106.2 miles

Transit X network length

207 km
128.8 miles

Route density ratio (route length to service area)	1.16		
Tunnel length	0.0	km	
High-speed X Way length	0.0	km	
Total costs for project not including pods	\$941,209,463		
...per person	\$3,942		
Mode share of travel on Transit X	85%		
Distance traveled on Transit X, per year	2,354,242,620	km	1,462,262,497 miles
...per day	6,449,980	km	4,006,199 miles
Potential energy generation (ideal)	1,166	MWh	
Energy consumption per day	179	MWh	15% of max capacity
Daily number of people riding Transit X	202,952	customers	
Distance per Transit X customer per day	32	km	19.7 miles
Average distance per trip (with 3 trips per day)	11	km	6.6 miles
Passenger fare for 11 km trip (at \$0.30 per km)	\$3.16		
Distance traveled during peak hour	1,289,996	km	801,240 miles
Breakeven	64,934	customers per day	
		(29% of people convenient to Transit X)	

Number of pods needed to meet peak demand

11,198 pods

Distance per pod per year	210,238	km	
Pod garage volume [unit: cubic shipping containers]	8	sc ³	
Cost of pods	\$55,990,000		
Cost of pod per person	\$234		

Project finances

Total project cost (privately financed)	\$997,199,463		
OPEX (O&M) per year	\$84,997,044		
Private equity	\$299,159,839		
Financed	\$698,039,624		
Gross Revenue from fares	\$702,741,422		
EBITA (Profit)	\$617,744,378		
Debt service	\$104,705,944		
Fees and taxes	\$35,137,071		
OPEX + Debt service + Tax + Fees	\$224,840,059		
Net income	\$477,901,363		
Operating Margin	88%		
Project costs — per person	\$4,176		
Number of motor vehicles displaced	162,362	motor vehicles	
Yearly cost of cars displaced — per person	\$6,120		
Operating costs per passenger-mile	\$0.15		
Breakeven revenue distance per day	2,063,652	km	1,281,772 miles
Network capacity (number of pods)	6,220	pods	
% of max network capacity at peak	90%		

Impact of proposed network

Reduction in CO2 emissions	232,481 metric tons CO ₂
Est. cost to maintain 720 km roadway	\$36,727,869
Reduced waste products per year	26,018 metric tons
Travel time saved per year	564 hrs/person
Cost savings per capita per year from reduced car ownership	\$3,729
Increase in household income from time saving and car costs	27%
Reported injuries avoided per year	1,460
Lives saved per year	15
Land freed from parking (923 acres)	3,734,316 m ²
...and its commercial value	\$3,734,316 per year
Health care savings	High
Heat island mitigation from replacing asphalt with green space	1 to 3 °C
Change in global temperature	TBD °C
Decrease in sea level	TBD mm

Model Inputs

Ratio of road length to track length	4
Convenient walk time to Transit X route	5 min.
Walking speed	4.9 km/h 3 mph
Width of convenient swath along track	0.82 km 1 miles
Fixed cost for main route per km	\$6,200,000
Fixed cost per km for branch	\$3,100,000
Percentage of Dual Track	46%
Project cost per km for track	\$4,539,950
Water tunnel: additional cost per km	\$13,000,000
High-speed X Way: additional project cost per km	\$10,000,000
Median distance traveled per person per year (for trips under 1600 km)	14,500 km 9,006 miles
Mode share % of people convenient to Transit X	85% at 5 min walk.
Percentage of daily travel during peak hour	20%
Max capacity: number of pods per km of track	150 pods
Max track capacity during peak hour as % of capacity	20%
Average speed of pod	72 km/h 45 mph
Average # of trips for people riding Transit X	3 per day
Average occupancy per pod during peak hours	2 people
Average occupancy per pod	1.25 people
Maximum occupancy per pod	5 people
Empty pods: Percentage non-revenue vehicle travel	25%
Cost per pod	\$5,000
Median per capita (15 yrs+) income (US\$)	30,000
Base fare per km (per mile)	\$0.30 \$0.48
O&M as % of project cost	5%
O&M as % of gross revenue	5%
Percentage debt financed	70%
Length of loan/debt	10 years
Interest rate for debt	5%
kg CO2 emissions per liter of gasoline	2.37
Monetary value of 1 hour personal time	7.5
Eat. roadway maintenance per year per km	\$51,000
Area of one parking lot space	23 m ² 247 sf
Commercial income of land	\$1 per m ²
Distance from roadway that is convenient	0.25 km
Stops per km	2.0
Solar panel area per meter of track	1.5
Global Horizontal Irradiance (GHI)	3.8 kWh/m ² /day

Pod & Car

	Pod	Car
Service life (years)	20	12
Full cost of vehicle per year	\$200	\$9,000
Public cost to maintain infrastructure (per km)	\$0	\$100,000
Energy Efficiency in MPGe	1188	24
Energy Efficiency in liters/100km	0.20	9.8
Energy used (Watt-hours/km)	28	1375
mass of CO2 per vehicle per km (kg)	0	0.09875
Vehicle mass (kg)	45	1950
Average speed of travel (km/h)	72	16
Typical travel time (in minutes) for 11 km trip	9	40
Fare/cost per km	\$0.30	\$0.62
Number of deaths per 100M passenger-km	0.00001	1
Number of injuries per 100M passenger-km	0.0006	62
Volume to park (cubic meters)	5.7	70.9

Currency conversion

Currency name

Equal to US\$1

1





Taxes and Fees

4% of gross revenue proportioned to air rights owners and a municipal fee/tax of 1% of gross revenue. Both air rights and fee/tax have a minimum payment based on the Footprint and the Transit X Commercial Rate (TXCR).

Note: Inputs have box outline

Municipal rates

Total commercial land area	<input type="text" value="3,000,000"/> m ²	32,289,000 sq ft. (741.3 acres)
----------------------------	---	--

Total commercial income to muni	<input type="text" value="\$3,000,000"/>
---------------------------------	--

TXCR (Transit X Commercial Rate) per m²

*TXCR is the yearly tax rate per land area.
Calculation: total land area of commercial properties
in the municipality, divided by all the municipal
income generated by those properties. The TXCR is
used to calculate the minimum tax/fee.*

Project Revenue

Length of Transit X route	207 km	129 miles
---------------------------	--------	------------------

Estimated gross revenue per unit length	\$3,389,693 per km
---	--------------------

Municipal Tax

% of gross revenue with minimum.

1% gross revenue	\$33,897 per route-km
-------------------------	-----------------------

Minimum per year	\$1,421 per route-km	\$2,292 per route-mile
-------------------------	----------------------	-------------------------------

Air Rights Leasing Fee

% of gross revenue with minimum. Proportioned based on length.

% of route on municipal land	<input type="text" value="90%"/>
------------------------------	----------------------------------

4% gross revenue	\$135,588 per route-km
-------------------------	------------------------

Minimum per year	\$1,421 per route-km	\$2,292 per route-mile
-------------------------	----------------------	-------------------------------

Taxes and Fees

Paid to Municipality	\$32,326,105 per year
-----------------------------	------------------------------

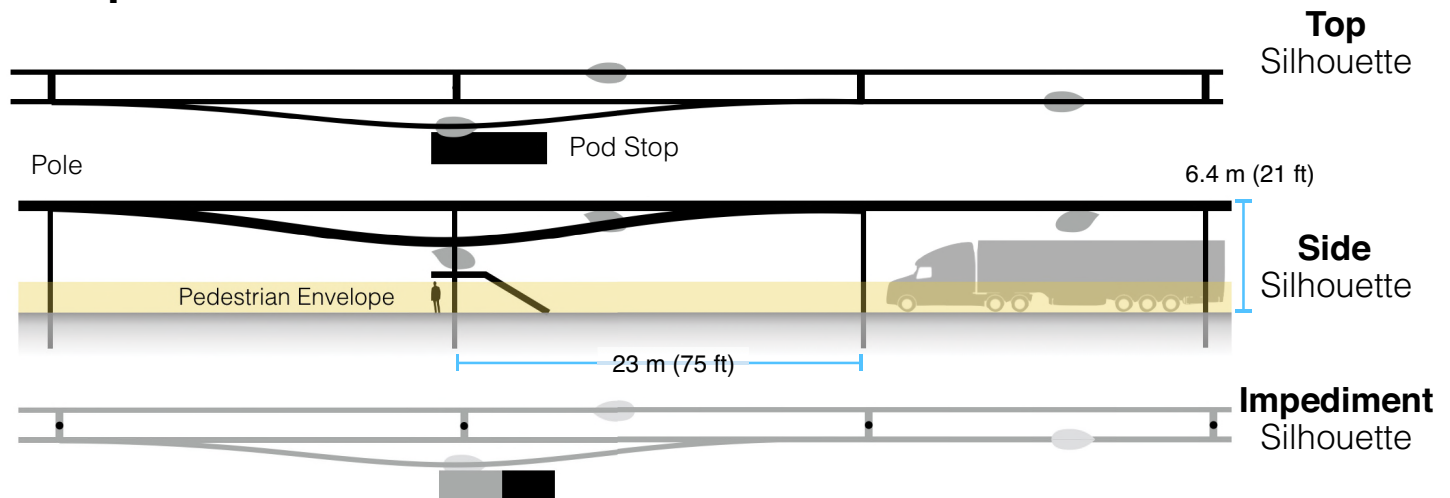
...with minimum	\$559,683
-----------------	-----------

Paid to Private land owners	\$2,810,966
------------------------------------	--------------------

...with minimum	\$29,457
-----------------	----------

Footprint calculations for minimum fee

Yearly fees and taxes



Note: Diagrams for illustrative purposes.

Footprint Calculations	Metric	Imperial
Track width	0.41 m	16.1 inches
Track height	0.61 m	24.0 inches
Pole diameter	0.3 m	11.8 inches
Pole cross section	0.07 m ²	0.8 sf
Stop landing area	1 m ²	10.8 sf
...width	1 m	39.4 inches
...length	1 m	39.4 inches
Ramp length	21 m	68.9 feet
Pole span	23 m	75.5 feet
Number of poles per unit length	43.5 poles per km	70.0 poles per mile
Pole height	6 m	19.7 feet
Single track	1126.7 m ²	12124 sf
...Area of Side Silhouette	688.3 m ²	7406 sf
...Area of Top Silhouette	423.1 m ²	4553 sf
...Impediment Area (adjusted)	15.4 m ²	165 sf
Dual track	1536.7 m ²	16535 sf
...Area of Side Silhouette	688.3 m ²	7406 sf
...Area of Top Silhouette	833.1 m ²	8964 sf
...Impediment Area (adjusted)	15.4 m ²	165 sf
Stop	51.8 m ²	558 sf
...Area of Side Silhouette	25.6 m ²	276 sf
...Area of Top Silhouette	21.2 m ²	228 sf
...Impediment Area (adjusted)	5.0 m ²	54 sf
Stops	2 stops per km	3.2 stops per mile
% of dual track	46%	
Average area per unit length	1,421 m ² per route-km	24,659 sf per route-mile
Contract values		
% gross revenue for muni tax/fee	1%	
% gross revenue for air rights (RoW)	4%	
% gross revenue for RoW+tax+fee	5%	
Impediment Factor	5	



Fair Fare Policy

Fares will be similar to existing mass transit, and several times less than taxis or ride-sharing services. Transit X Fair Fare is a universal passenger fare model that applies to all regions and all times. Fares are proportional to the median income of the area and inversely proportional to per capita use, so the more people that use Transit X, the lower the base fare. Market-rate fares are offset by Half-price fares. There are no pre-set escalations.

		Initial	50% share	+50% Income	90% Usage
Median income per capita	US\$	30,000	\$30,000	\$45,000	\$30,000
Nominal fare	US\$	0.3	\$0.30	\$0.45	\$0.30
Per Capita Usage %		1%	50%	50%	90%
Discount for usage	US\$	0.0015	\$0.08	\$0.11	\$0.14
Base Fare (US\$)	per km	0.30	\$0.23	\$0.34	\$0.17
	per passenger-mile	0.48	\$0.36	\$0.54	\$0.27
% Fares at Market rate		<u>20%</u>	<u>30%</u>	<u>40%</u>	<u>50%</u>
% Fares at Base rate		80%	60%	40%	20%
% Fares at Half Base rate		0%	10%	20%	30%
Estimated average fare	per km	0.48	\$0.42	\$0.71	\$0.39

Price comparison with common travel modes (in Boston, USA)

	Mode	Bus	Commuter Rail	Subway	Personal Car	Taxi / TNC's
Average distance (km)	»	5	18	8	8	5
Price per trip	US\$	\$1.85	\$8.00	\$2.50	\$6.00	\$12.00
Typical price per km	US\$	\$0.37	\$0.44	\$0.31	\$0.75	\$2.40

Base Inputs

Median travel distance per capita per year (under 1000 mile trips)	<u>20,000</u>	km
% of per capita median income for 20,000 km transportation	<u>20%</u>	
Fare Discount when Transit X travel per capita is 20,000 km per year	<u>50%</u>	