Transit X

Transit X, LLC offers a concept proposal for

Branson, Missouri

For a privately-funded mobility service that is

High capacity • Automated • Wait-free
Solar powered • Final destination • Resilient

Economics for Branson, Missouri

Inputs are underlined.

Size of region	53	km²	20.4 sq miles
Number of people in region (residents + visitors)	32,980		
Travel distance per year by all people (residents and visitors)	478,207,219.178082	km	297,023,118 mi
Percentage of all travel that occurs within the region	60%		
Region's area that is conveniently served by paved roads	40%		
Area to serve	21.2	km²	8.2 sq miles
Desired coverage (percent of people convenient to Transit X)	70%		
Estimate #1 for network length based on desired coverage	18	km	11.3 miles
Length of paved roads (non-highway) in region	53	km	32.9 miles
Estimate #2 for network length based on paved roadways	19	km	11.5 miles
Transit X network length	**19**	km	11.5 miles
Total fixed costs for Transit X	$43,128,750		
…per person	$1,307.73		
Mode share of travel on Transit X	60%		
Distance traveled on Transit X, per year	170,719,977	km	106,037,253 mi
…per day	467,726	km	290,513 mi
Daily number of people riding Transit X	19,623		
Distance per Transit X customer per day	24	km	14.8 mi
Average trip distance	8	km	4.9 miles
Cost for an average trip	$2.23		
Distance traveled during peak hour	46,773	km	29,051 mi
Number of pods needed to meet peak demand	**406**	pods	
Pod shed parking volume	15	standard 53' trailers	
Cost of pods	$2,030,000		
Cost of pods per person	$62		
Milage per year per pod	420,493	km	too high
Revenue per pod per year	$118,264		
Yearly payment to municipality for RoW	**$2,524,717**		

System Economics

Total system cost	$45,158,750		
OPEX (O&M Costs)	$3,161,113		
Equity	$22,579,375		
Financed	$22,579,375		
Revenue from fares	$48,014,994		
EBITA (Profit)	$44,853,881		
Debt service	$2,935,319		
OPEX + Debt service	$6,096,431		
Net income	$41,918,562		
Operating Margin	93%		
One-time fixed costs (per person)	**$1,369**		
Operating costs (per passenger-mile)	**$0.06**		
Equivalent number of cars taken off the road	**11,774**	cars	
Yearly cost of cars removed (per person)	**$3,213**		
Breakeven revenue distance per day	59,387	km	36,886 mi
Breakeven (people riding daily)	**2,492**	people	
IRR (Internal rate of return)	**93%**		
Payback period (profits pays back equity)	**6**	months	
Network capacity (number of pods)	553	pods	
Peak demand as % of maximum track capacity	**73%**		

Externalities (estimated)

Reduction in CO2 emissions	**20,230,317**	kg CO_2
Public cost for maintaining roadways per year	**$2,703,000**	
Reduced waste products per year	**1,103,793**	kg
Travel time saved (hours per person per year)	423	
Cost savings per household per year over personal car ownership	$2,947	
Increase in household income from time saving and car costs	**20%**	
Reported injuries avoided per year	**106**	
Lives saved per year	**1**	
Land freed from less street parking and parking lots	TBD	
Health care cost savings from lower pollution	TBD	
Municipal revenue from leasing rights-of-way	$123,967	