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# The Green New Deal and Transit Investment

Eric Bruun

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# Transit and the Green New Deal

TREC  
Portland State University

6 October 2023

Eric Bruun

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Excerpts from



## **Outline of basic presentation**

Background - why I wrote this book

Original idea was an engineering oriented and systematic approach to a Green New Deal.

Unsuccessfully tried to get funding both in the US and the European Union.

The attempt to collect information for such a project itself tells a story.

I discovered a bigger issue standing in the way; not much interest from elected officials.

The first half of the book was added to address the socioeconomics first.

The second half addresses not just transport but many competing priorities.

## **The Dual Economy**

The USA is a laggard compared to its peers in all types of infrastructure.

But this is well known. I am going to provide some reasons.

Roughly 20 percent of the population is living the good life and they receive representation.

They are in large part getting the infrastructure and public services they desire.

Proof? It is everywhere

President Biden said he has no empathy for college students, “give me a break”

Senator Schumer admitted the Democrats are seeking suburban voters

President Biden said no tax increases for anyone earning under \$400,000

Physicians and dentists earn double what they do in peer nations

“Cadillac” health care plans for some unions most have copays

Seventy five percent of college faculty are part time or adjuncts



**PHOTO 7.5** of 2 indigent scholars *Source: Fair use or similar from public domain*  
or

[https://www.youtube.com/watch?v=yOB\\_vUF5Dic&fbclid=IwAR26AIJwGNG1Wu6L-Lamw0SonBxZTuUhlG3Yw7xp5lBdHArrqfMe6nTEhgo](https://www.youtube.com/watch?v=yOB_vUF5Dic&fbclid=IwAR26AIJwGNG1Wu6L-Lamw0SonBxZTuUhlG3Yw7xp5lBdHArrqfMe6nTEhgo)



Stadiums – the 0.1 percent get \$100s of millions,  
- the 20 percent get to enjoy the new facilities

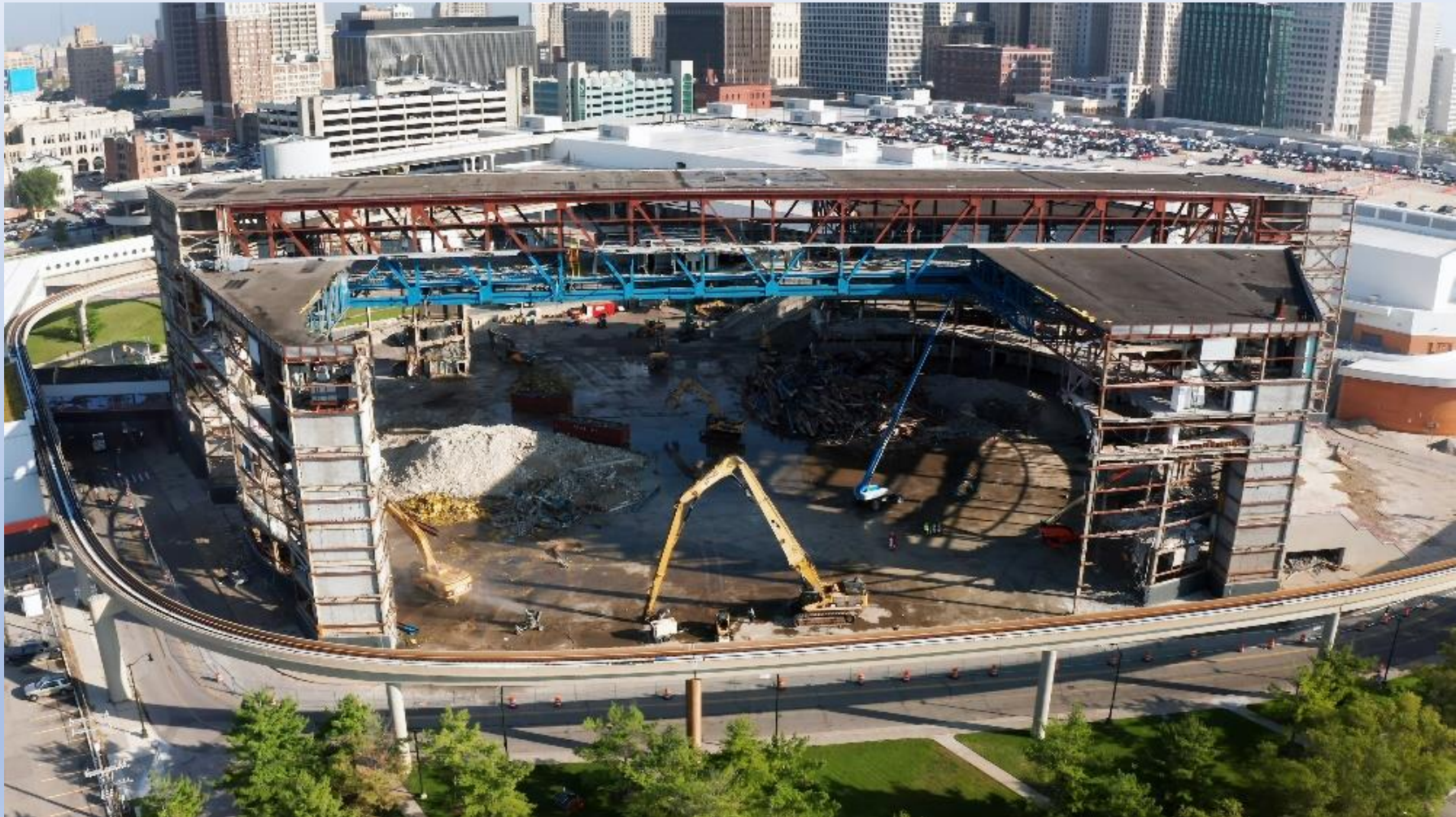


Figure 1.2 Detroit - demolishing Joe Louis Arena as if there were not already enough destruction

Credit: Shutterstock (1609733881)



Where did the part of the auto industry go where the 80 percent work?



Figure 1.1 Detroit – these railroads were used to support the automobile factories

Credit: Shutterstock (94909557)

Not just to Mexico. Japanese and European companies were incentivized to come as well

## Supply chain: southern auto cluster

*Auto assembly plants and parts suppliers locate along same-day delivery corridors to support just-in-time production processes, while avoiding urban congestion.*

Specialization: supply chain,  
manufacturing parts & assembly  
Cluster location: rural  
Cluster span: 290 km (180 miles)  
Internal spacing: 2+ km (1+ mile)  
Purpose: same-day parts delivery  
**Technology: just-in-time processing**  
**Productivity: logistics, reliability**

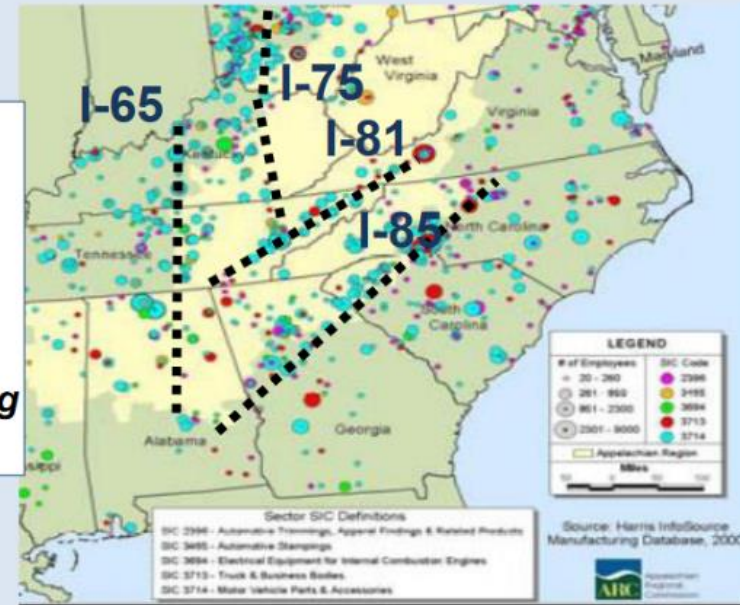


FIGURE 6.1 Dispersal of the auto industry to a less sustainable and less union friendly design. Source: Glen Weisbrod





I used to walk to the park and ride lot next to this street and I would be the only one on foot.

FIGURE 2.2 Suburban Virginia residential street.  
Credit: Rita Bruun

# Transportation for the lower 80 percent



FIGURE 2.1 Intercity bus waiting area adjacent to Philadelphia 30th Street Station, 9 October 2013.

Credit: Eric Bruun





FIGURE 6.2 Person dressed as a clown successfully hailing a taxi in NYC

FIGURE 6.3 Yaphet Kotto, movie and TV star, trying to hail a taxi in NYC

(from Michael Moore's Awful Truth TV show).



This is what the public gets from most state governments but not much transit

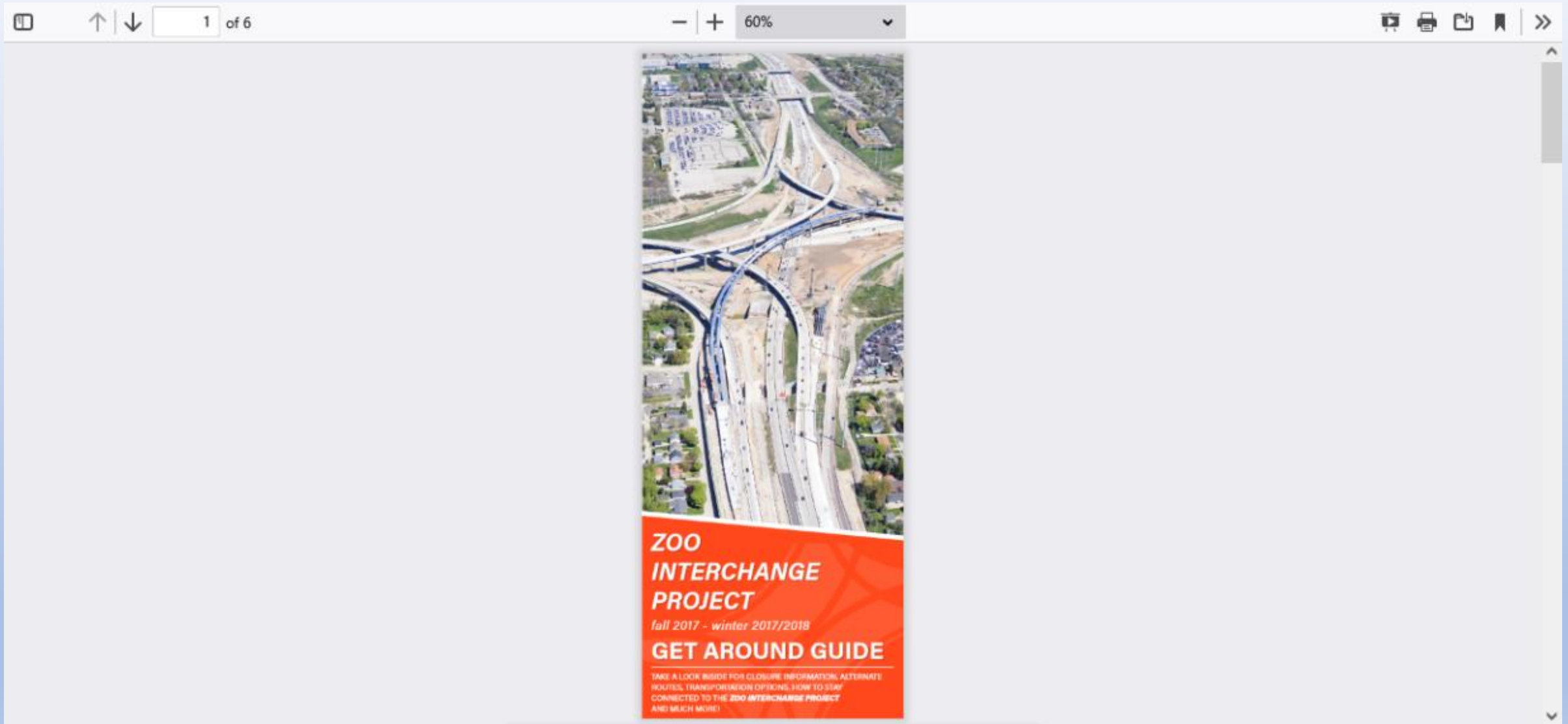


FIGURE 3.2 Guide to drivers during reconstruction of the Zoo Interchange outside Milwaukee.

Source: Wisconsin DoT.





FIGURE 3.4 Looking south under Interstate 5 toward the Ship Canal in Seattle.  
Credit: Ralph Jenne



FIGURE 3.3 Interstate 5 over the Ship Canal in Seattle – huge and noisy structures attract industrial uses.  
Credit: Ralph Jenne

## **Bigger City Transit in the USA – some case studies**

### Generalities

Investment targets reflect the dual economy by and large

Many of the existing investments in rail systems are not being used anywhere near their capacity.

For example, Toronto, Boston and Philadelphia have empty networks running trains at 30, 45 or 60 minute headways.

Construction pace is slow.

Most bus systems not expanding past population growth rate, if at all.



## Seattle

*Forward Thrust* in 1970 was a parallel system to the Interstates and may have deserved its fate. Re introduced again later, some called it “Cadillac BART”.

In 1995, a much more balanced proposal more like Light Rail slightly failed.

In 1996, a trimmed down proposal that eliminated the Eastside line to Bellevue passed.

Initial segment south towards SeaTac Airport was resisted by Port of Seattle.

Freight railroads extracted a lot money for capacity for peak hour train service from Everett to Lakewood.

In 2008, a new proposal put back the Eastside line.

Rapid Ride, a Bus Rapid Transit network, has filled the higher speed, longer trip gap.

My route 255 to UW in the 70s is once again at 30 minute headways.



Northgate extension of the Light Rail line opened in 2021, only 8 miles north of downtown after 25 years.

Credit: Ralph Jenne



Are we dismissing possibilities for West Seattle too quickly?



Bogota Gondola - Thompson Reuters Credit: Fabio Cuttica



## Philadelphia

Demolition of Philadelphia Convention Hall and Civic Center in 2005 for medical research centers



FIGURE 7.5 Philadelphia Convention Hall and Civic Center at beginning of demolition in 2005.  
Credit: William Keller.



FIGURE 7.6 Philadelphia Convention Hall and Civic Center showing a cross section of the distinctive arched roof.  
Credit: William Keller

# Array of parking houses surrounded by one-way loop for high paid medical complex employees



FIGURE 7.3 Penn research complex replaces the Philadelphia Convention Hall and Civic Center.  
Credit: Michelle Rifken.



FIGURE 7.4 Connecting parking garages with overpasses and sidewalks to the Penn medical complex.  
(One way couplet with parking house in between)  
Credit: Michelle Rifken



# This is it? A few extensions?

To Quakertown

The PATCO subway line terminal was only 16 short side blocks away but apparently not considered instead of parking houses.

One very good thing: SEPTA has set a goal of 30 minute or better headway on all branches.

King of Prussia

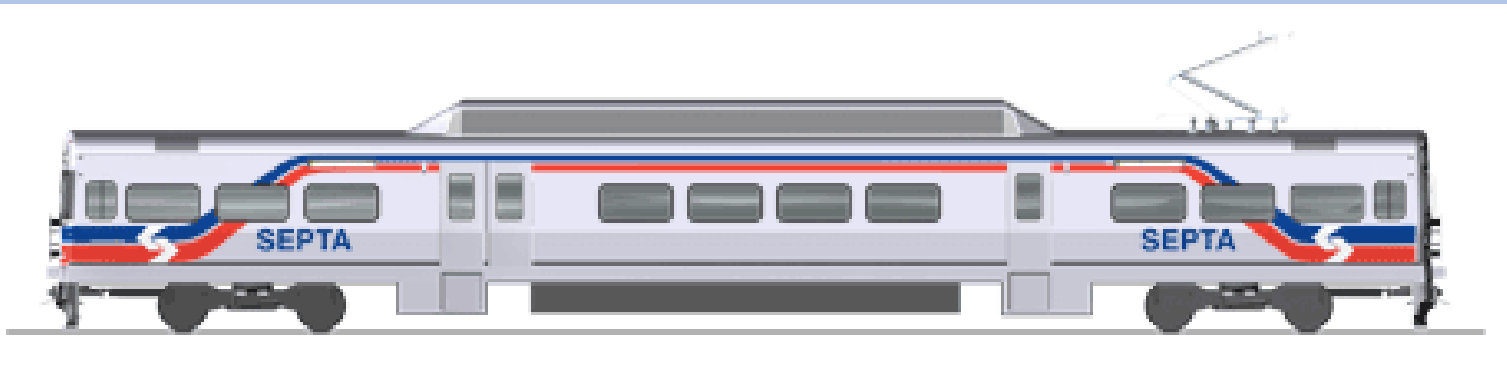


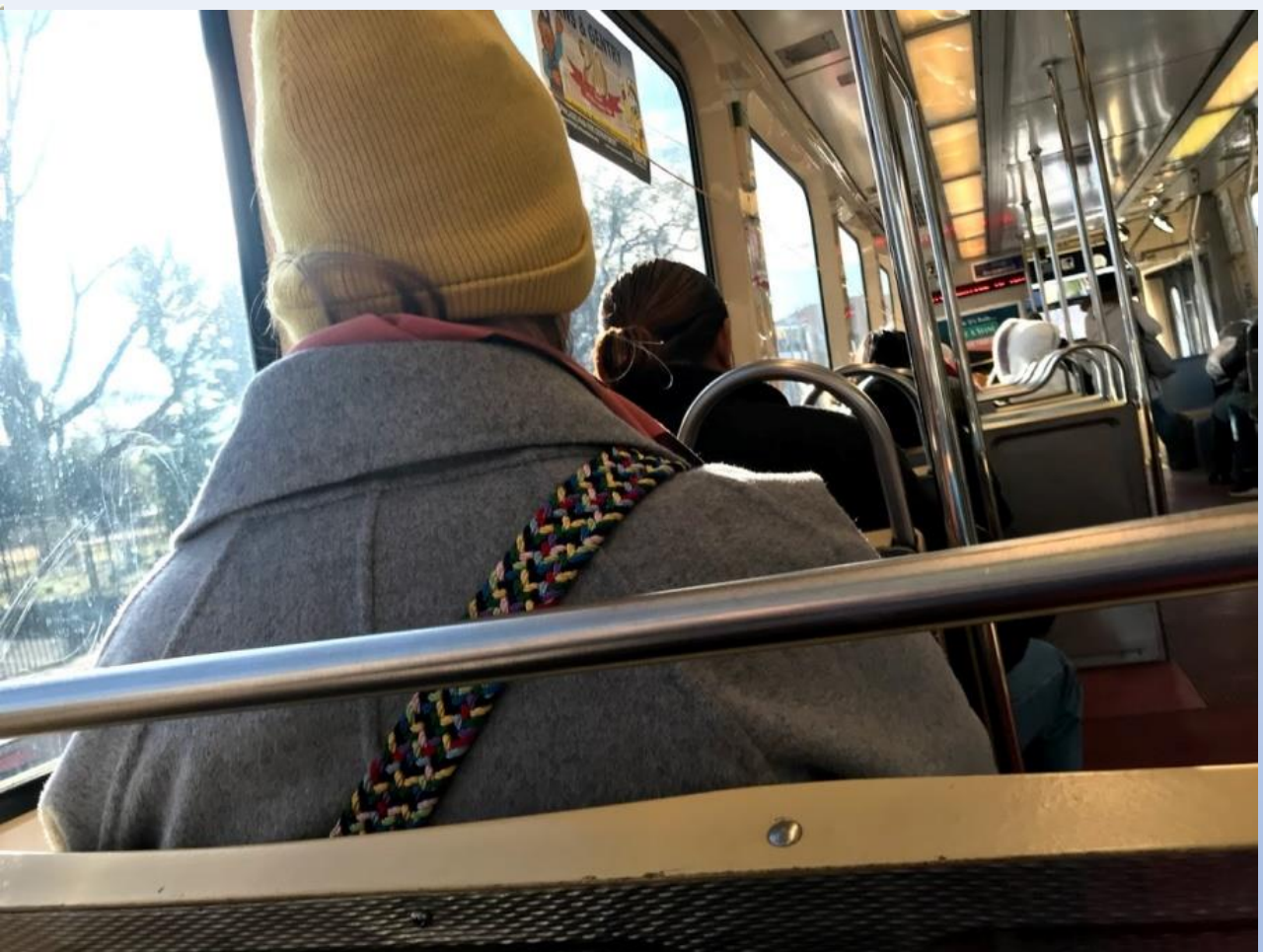
Wawa



No transit expansion since 1984 when a tunnel linked Pennsylvania and Reading networks  
Streetcars now 40 years old, not accessible, and replacement finally scheduled by 2030  
Best Regional Rail area coverage in the USA, but remains on 30 or 60 minute headways  
Regional Rail stations internal to the city proper deliberately neglected  
Transit union militant and part of a political machine - 11 strikes in 50 years  
NE subway extension became mayoral issue after decades of neglect

Obsolecent designs





SEPTA Regional Rail during Covid 19 restrictions

Credit: Will Tung, 5<sup>th</sup> Square

SEPTA 40 year old non-ADA compliant streetcars

Credit: Will Tung, 5<sup>th</sup> Square



# New York

Less transit investment since Robert Moses died than his 40 years in various positions – only 11 more stations



**Figure 6.4** Size of station cavity for the line 7 extension at Hudson Yards (Jacob Javits Center) instead of more modest tube without mezzanines Credit : Metropolitan Transportation Authority / Patrick Cashin [Creative Commons Attribution](#)

**Figure 6.5** The completed 34th Street-Hudson Yards (and Jacob Javits Center) subway station showing the enormous size of the two level station Credit: [Epicgenius](#) [Creative Commons Attribution-Share Alike 4.0](#)



Construction costs are amongst the highest in the world



**Figure 6.6** Hudson Yards (Jacob Javits Center) Station atrium under construction in 2013

Credit: Metropolitan Transportation Authority / Patrick Cashin

## New York continued

Still no common fare system with New Jersey even with tunnel capacity limit

Still no common fare system with the “dollar vans” serving neglected trips owned and operated by ethnic minorities

“Transit first” policy recently celebrated for the 14<sup>th</sup> Street corridor.

Other than that, only some BRT-like expresses with fewer stops

Bicycle lanes were allowed to be built quickly only because they were deemed experimental

## Los Angeles

In most measures a bigger metro area than the New York City region

MetroLink, a regional rail network using freight corridors, opened in 1992

The Red Line subway serving downtown opened in 1993

Barely any expansion in either since. Taking over 30 years to reach UCLA in the west end.

Propositions to fund transit would take 66.7 percent to win, delaying investment for years

Light Rail network is the one mode that has been expanding at a decent pace

Projects being sped up. But is it because the Olympics are coming in 2028?



## Los Angeles continued

Rapid transit stations are not where the high-rise buildings are, except for downtown LA.

New SoFi stadium not even on a rail line

What to do with population growth?

Again, are we dismissing faster construction possibilities too quickly?

Sepulveda Pass between west end and San Fernando Valley. I 405 was widened but is still congested. Steep hills and an urgent transit need.

Maybe a place for a monorail or for gondola in only 2 years?

## Amtrak

Northeast Corridor has amongst the highest walk up fares in the world.

6 or 8 car trains at 30-minute headways means trains can be filled by the upper 20 percent.

Recent purchases waste money with rolling stock for speeds unlikely to ever be reached.

Could have bought only trains all of the same speed and run them every 10 minutes.

Assuming the policy was to get cars off of Interstate 95 fares could have been cut dramatically.

Have a look at *Ouigo*, a one class service using older TGV rolling stock and even lower walk up fares.

Meanwhile, Philly intercity bus station closed. Chicago may soon follow.



## Helsinki

Public had the ability to reject the highway and rail infrastructure plan in 1968.

Consulting company went out of business soon thereafter.

In the 10 years I lived here,

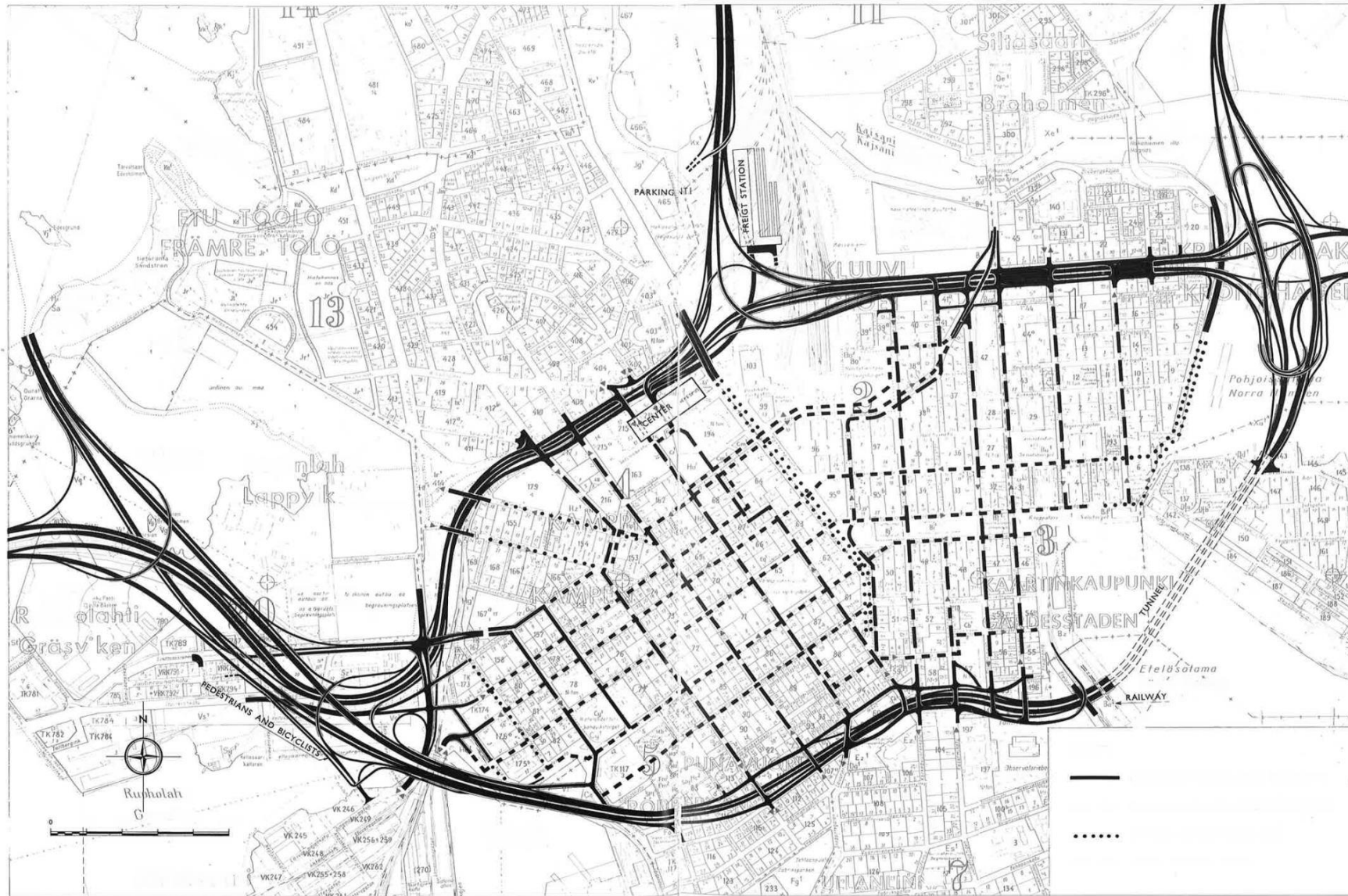
- 10 tram lines, some have been extended to new housing areas

- trams lost ridership to bicycles not to cars

- metro extension to the west justified by TOD

- new ring regional rail line serving the airport and TOD

- tangential BRT line opened in 2007, upgrade to LRT opens 21 October



Credit: Wilbur Smith & Associates and engineering consultant Pentti Polvinen: Helsinki transport study, 1968 © The Museum of Finnish Architecture  
<https://guides.hamhelsinki.fi/work/smith-polvisen-liikennesuunnitelma-1968/>



## Paris

Already a place known for a dense transit network, especially the *Metropolitan* within the city proper.

Then there is the “Uber Metro” or RER, with longer station spacings and double deck trains.

A large orbital tram network has developed since 1996.

Current mayor of Paris proper got re-elected with ambitious agenda of adding bicycle lanes.

Already underway is a dramatic expansion of the rail transit system to be completed by 2030.

- Increases in the tram network, including an east-west tram aimed at Orly airport

- A circular automated metro connecting the suburbs

- New metro lines to both Charles de Gaulle and Orly airports

- Parliament passed law of no airlines where there are TGV trains.

- European Commission response?

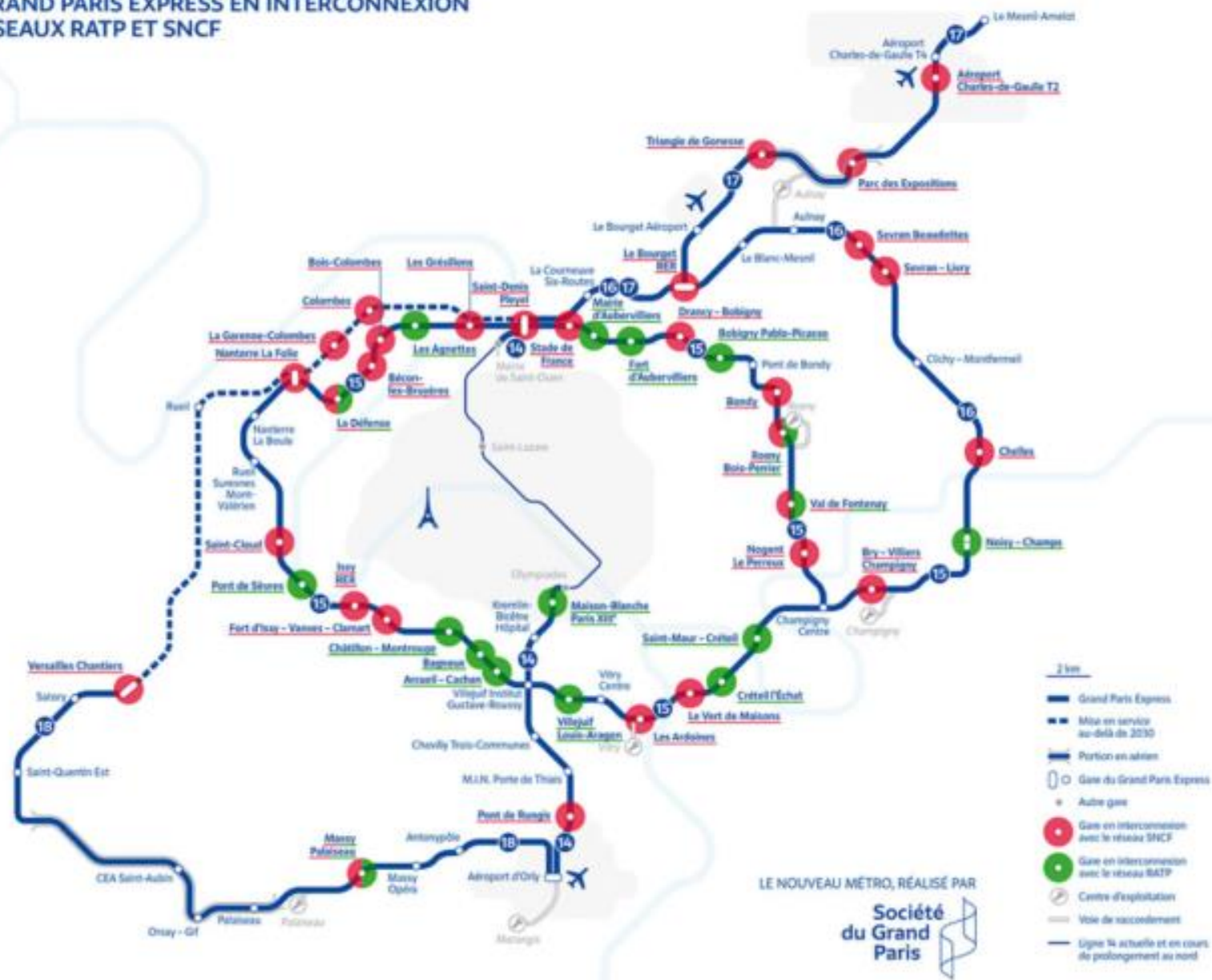


Eric Bruun

Paris T3 line using 100 percent low-floor LRT vehicle on RoW B (laterally separated from traffic)



## GARES DU GRAND PARIS EXPRESS EN INTERCONNEXION AVEC LES RÉSEAUX RATP ET SNCF



## Observations about transit under a Green New Deal

Infrastructure bill is already making highway widenings *fait accompli*.

Federal matching funds favored highways with 20 percent local, transit 50, but now both 80 for the time being under the infrastructure bill.

Voting used strategically to make transit hard to fund.

Glacial construction pace of non-highway modes relative to peers.



I 405 being widened in Renton just now. Bellevue LRT opening postponed again.

## Observations about transit under a Green New Deal (continued)

Big city workers and elected officials view services like transit just like streetlights and sewers, stagnant.

In fact, federal matching funds essentially forbid the hiring of locals with prevailing wage rule. Contributing to higher construction costs and durations than peer countries.

Cadillac health plans make operating and maintenance costs too high relative to peers. Healthcare should not be in the transit budget but the general ledger like peers.



Many interrelated problems that should be solved simultaneously!



FIGURE 3.5 Under the north side of the University Bridge in Seattle.

Credit: Ralph Jenne



FIGURE 3.6 Homeless living in a Seattle park.

Source: Ralph Jenne

## **So what is holding back a faster urban development pace involving transit expansion?**

### Pandering

Auto industry has been allowed to increase car size and make alternatives less safe

Leaders do not seem to appreciate or use transit themselves

### Silos

Silos prevent systems analysis and systems solutions

Silos everywhere: academia, professions, government departments, organized labor

### Universities in general

Infrastructure studies are in silos, transit may not exist at all. Highway studies persist.

Virtually none to study combined infrastructure. Nowhere to apply for grants.

Transit is a now largely a pedagogical experiment where engineers and planners learn by using software

## **Do what can be done quickly**

Silos were constructed over decades, but must be dismantled quickly.

Take lanes for buses and install TSP, stop pandering to the upper 20 percent

Increase capacity of existing tunnels (also, keep tunneling machines going instead of breaking into phases)

Resist almost all highway widening by challenging the EISs and EAs. Many are very flimsy.

Create new organizations for smaller buses. .

Create new organizations for Mobility as a Service (MaaS) and other ideas that make auto alternatives attractive.

Resist virtue signaling with electric buses where services need high frequency more urgently. Diesel-electric hybrids fine except in high pedestrian locations.



## Toronto

For decades, Canada was the only peer country without federal gov help for transit

Excellent for local streetcar and bus services, one of the best in North America

Deficient in subway and regional rail for longer distance travel

Hot off the press: *Deutsche Bahn, Alstom, FCC and AECOM* awarded a contract to make a Toronto RER!

10-minute headways during the peak

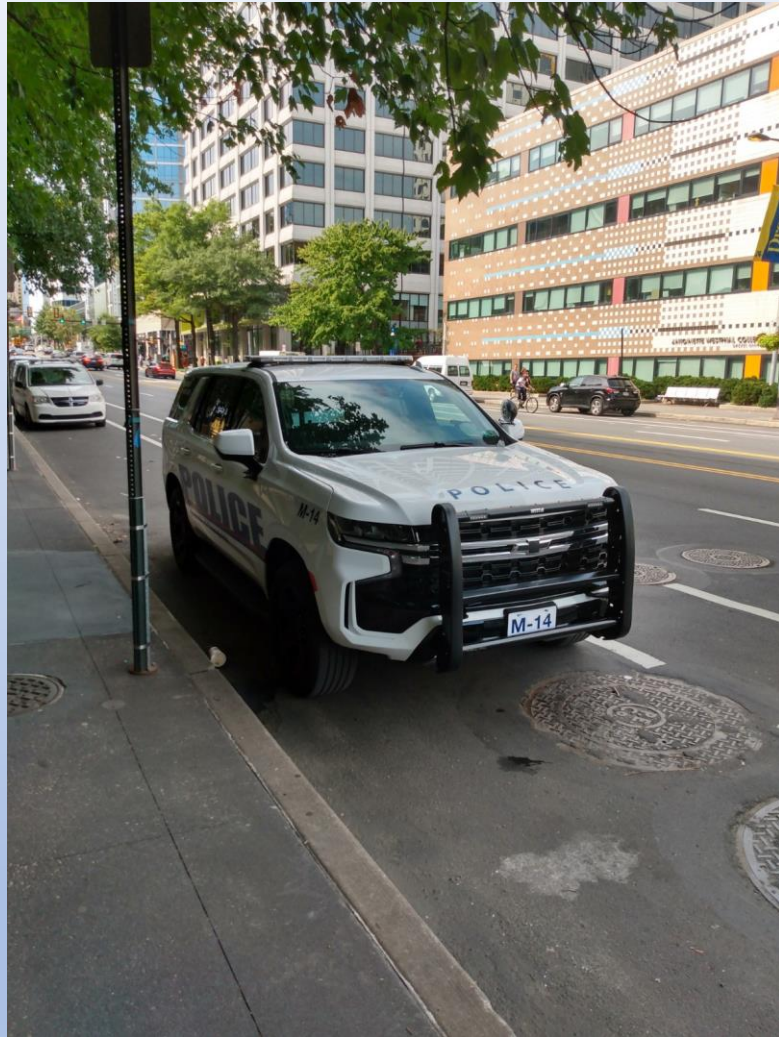
Diesel-electric locos phased out with electric locos

Will be the best regional rail system in North America

And not at a glacial pace but within 5 to 10 years

**This is probably the new regional transit role model for North American cities.**

Give up on most large transit projects for the next 10 years.



Make being a bicyclist or pedestrian safer and easier



Example: Why still no personal rapid transit systems? Fredreich Lehner did the analysis.

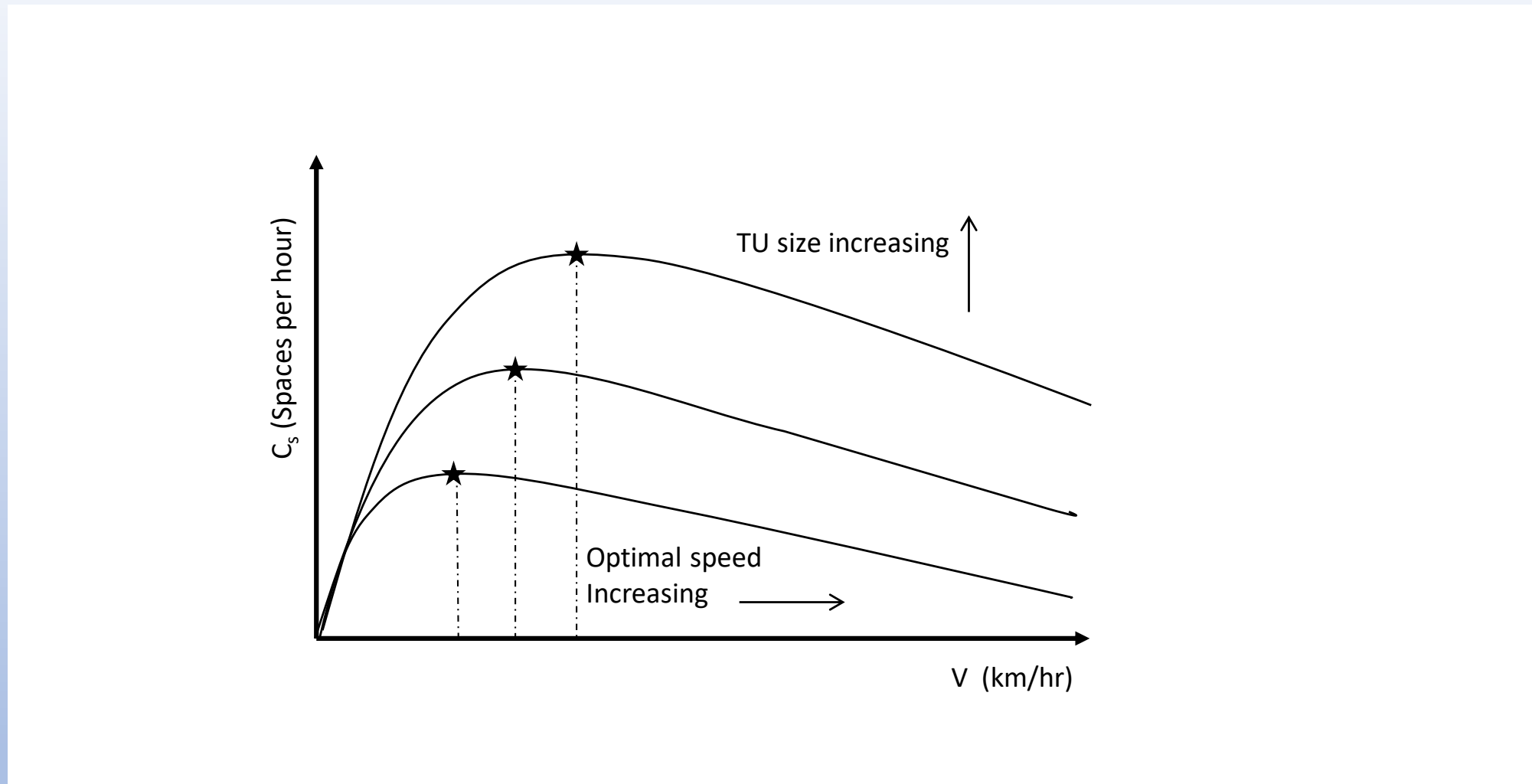


Figure 4.7 Speed that maximizes capacity decreases as Transport Unit (TU) size decreases

Source: Bruun 2013

**Autonomous cars and “smart mobility” are where the research money has gone.**



Thanks for your time and attention

Questions or Comments?

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