



Is active travel key to the future of our cities?

Active Travel is good for people and good for the planet, but what is it? Active Travel means making journeys by physically active means, like walking or cycling. In recent years there has been an increase in other methods such as e-scooters, skateboards and running. We are seeing a future emerge where we have increased options for travel and work. The city of the future is a city with cars – not a city for cars. This report will shed some light on the evolving financial and social relationship between Active Travel and real estate.

Is the bicycle key to the future of our cities?

The one constant as cities have evolved for 100s of years is the transportation of goods and of people in and out. The industrial revolution heralded the beginning of the modern world and with it came improved transportation infrastructure, the invention of the modern car, and the evolution of the modern office workplace.

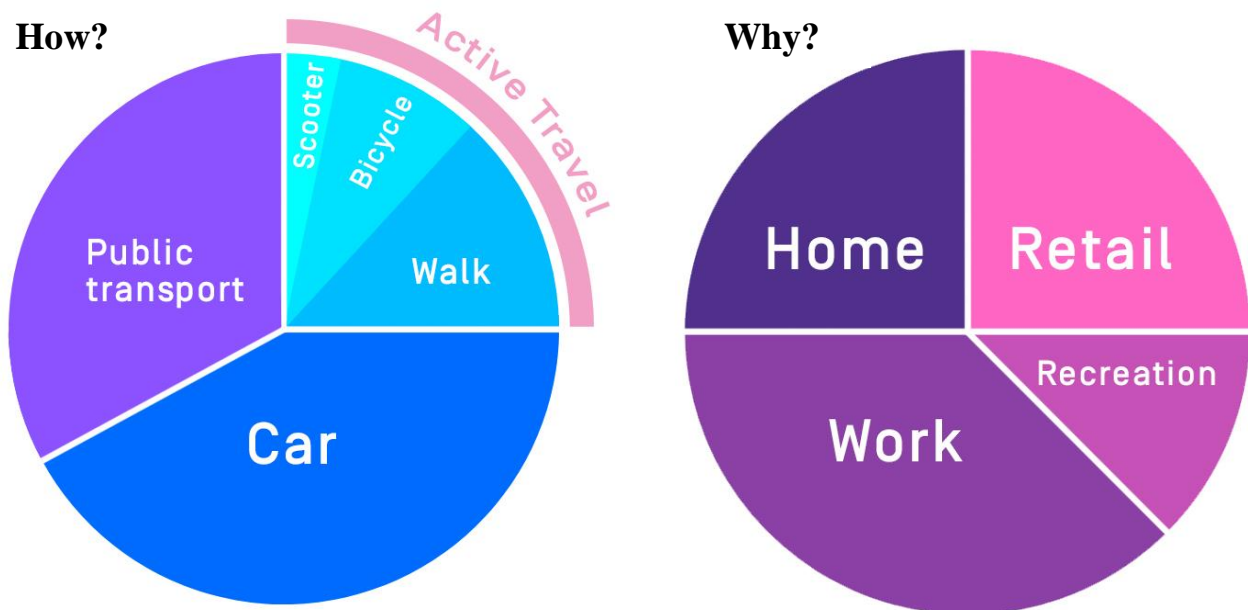


During the past decades we have seen cities explode as the urban environment sprawls and people continue to move in from the countryside.

Private transportation modes have flourished with the evolution of the car – therefore infrastructure was built to match the continued growth in car ownership. There was also a focus on public transportation methods, but for every train station, bus station, subway station, there were many more square miles created of car infrastructure, roads, and parking lots. The most efficient way to attract office workers and affluent customers to cities was by developing more roads and more parking lots. This appeared to have been the conventional wisdom of the early city planners. By the 2010s/early 2020s, the world started to really challenge this conventional wisdom due to pollution from cars and the social fabric of our cities. Was there a better way to commute to the office? Were there alternatives to the city office model?

We are seeing a future emerge where we have increased options for travel and work. The city of the future is a city with cars – not a city for cars. We are in essence disrupting three important drivers from last century - the reliance on the combustion car engine for personal use, the infrastructure designed to facilitate the use of car driving (roads and parking lots), and the office workplace. So, what are the disruptive forces at play in our society allowing for this change? In answering this we will answer why we travel to a city – for work, to live, for recreation.

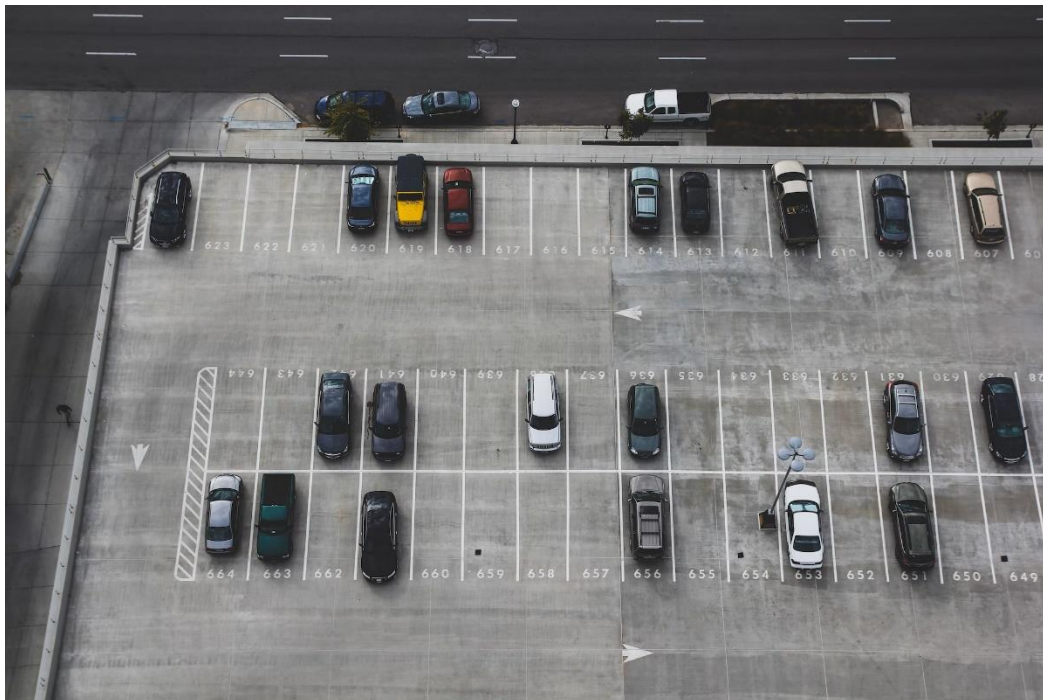
How and Why people travel to a city centre



Work from home and hybrid work has become accepted as a viable business model post Covid-19. The effect on our society has been fewer cars on the roads and less pressure on our road infrastructure. New work conditions have also left parking lots emptier than usual. Peak building occupancy rates may still be high, but average occupancy rates over any given work week are lower. More work from home equates to less need for parking lots.

Modes of transportation have also evolved. There is now a large focus on EV cars and EV chargers across the developed world. The CO₂ emissions comparisons of EVs vs combustion engine cars clearly show EVs reduce direct pollution across our cities and neighbourhoods. Ride sharing and ride sharing services such as Lyft and Uber continue to evolve and is another driver reducing the need for parking lots in the city. In a few years, self-driving cars will have an even greater impact on parking lots. Lastly, there has been a re-emergence of the bicycle and other active lifestyle choices as it is proven to be good for the economy and the society.

How will demand for office/city parking lots change in the future?

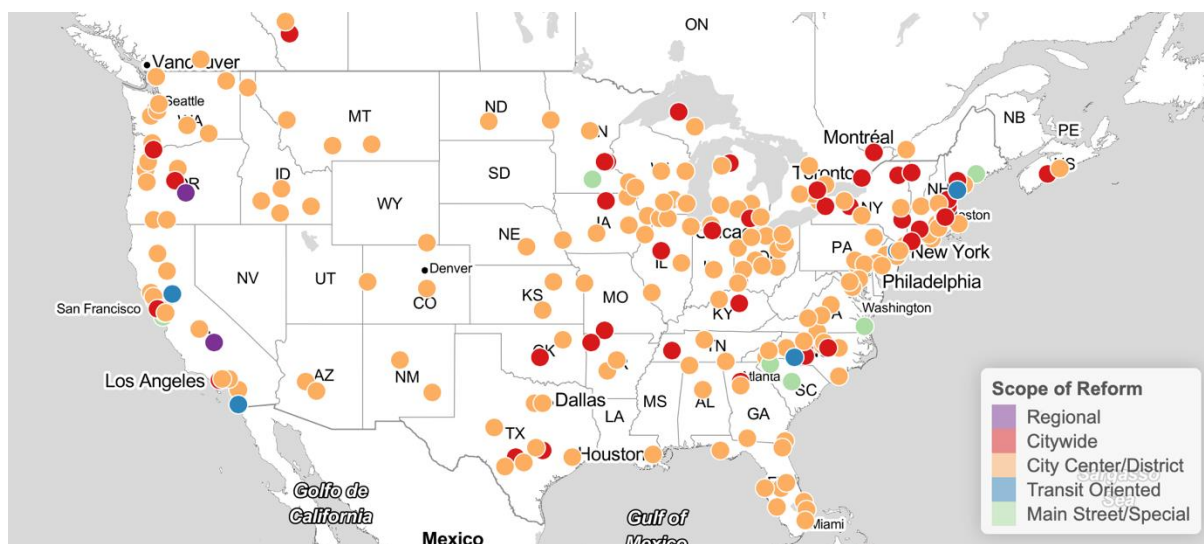


Urban mobility changes will free up car parking spaces in 3 ways:

1 - Regulation change:

Cities are changing minimum parking lot ordinances. As can be seen below from parkingreform.org, there is historical change in many US cities. City planners are now thinking about MAXIMUM number of parking lots rather than minimum, a not-so-subtle difference that will free up empty parking lot space for other use.

Parking lot reform across the US is picking up pace.



2 - Future buildings:

New buildings are also being built with a changing parking lot in mind, a parking lot that will serve other uses than waiting for a car to utilize it. Research has shown parking lots stay empty for 95% of the time on average, there must be a better model.

3 - Conversions:

Due to tenant demand, more office building owners are starting to convert portions of traditional car parking spaces to bicycle storage spaces. Industry ratio is 1:10 in favour of bicycles (meaning a traditional car parking lot creates 10 bicycle parking spaces) so it doesn't take much to create a bicycle friendly office culture. This is not just a European phenomenon anymore, it's a global force.

There are a plethora of benefits to society by fostering a bicycle culture, including but not limited to:

- **Healthy users** – healthy and active lifestyle of the bicyclists.
- **Greener infrastructure** – bicycle lanes are narrower than normal car lanes, the savings to municipal governments should not be underestimated with tax dollars focusing on other initiatives. How much asphalt can be cleared in the future to make for new facilities, parks, etc?
- **New opportunities** – average inner-city traffic moves at a snail's pace of ~7-10mph and with top speeds for e-bikes up to 28mph, there are plenty of opportunities for e-bikes in the future.
- **Reduced pollution** – see the clean air calculator (CO₂ and PM_{2.5} emissions) created by ActiveScore below. We have seen some research pointing out that the fuel for a bicycle is the food we eat to bicycle, but even then, it's a lot lower than EV charging your EV. Bicycles may not be carbon sinks, but they're about as close as it gets currently.

ACTIVESCORE

ActiveScore Clean Air Calculator for No.1 Sample

This is a clean air calculator to help assets calculate the Scope 3 emissions (carbon and particulates) of their occupants' commute to work.

REGIONAL AVERAGE COMMUTING CONSUMPTION

Total occupancy

2400

Total commuting trips

4800

| Mode | %* | Journeys | Avg. distance km | CO ₂ e Emission factor | kg CO ₂ e | PM _{2.5} Emission factor | g PM _{2.5} | Notes |
|--------------------|-----------|------------------|-------------------|-----------------------------------|-----------------------------------|-----------------------------------|---------------------------------|-------|
| Walk | 5 | 240 | 1.4 | 0 | 0 | 0 | 0 | |
| Cycle | 4 | 192 | 6.1 | 0 | 0 | 0 | 0 | |
| Car | 9 | 432 | 13.2 | 0.17137 | 977 | 0.021 | 120 | |
| Bus | 6 | 288 | 7.7 | 0.07856 | 175 | 0.075 | 167 | |
| Lightrail | 36 | 1728 | 14.3 | 0.0275 | 680 | 0.01316 | 326 | |
| Overground | 37 | 1776 | 20.6 | 0.03694 | 1351 | 0.015464 | 566 | |
| Daily Total | 97 | 4656 | 70,768 | | 3183 kg CO ₂ e | | 1178 g PM _{2.5} | |
| Annual | | 1,084,848 | 16,488,870 | | 741.67 t CO ₂ e | | | |

YOUR BUILDING'S TARGET COMMUTING CONSUMPTION

| Mode | %* | Journeys | Avg. distance km | CO ₂ e Emission factor | kg CO ₂ e | PM _{2.5} Emission factor | g PM _{2.5} | Notes |
|--------------------|-----------|------------------|-------------------|-----------------------------------|-----------------------------------|-----------------------------------|---------------------------------|----------------------------------|
| Walk | 5 | 240 | 1.4 | 0 | 0 | 0 | 0 | |
| Cycle | 10 | 460 | 6.1 | 0 | 0 | 0 | 0 | An increase to 10% cycle parking |
| Car | 8 | 408 | 13.2 | 0.17137 | 922 | 0.021 | 113 | |
| Bus | 6 | 272 | 7.7 | 0.07856 | 165 | 0.075 | 158 | |
| Lightrail | 34 | 1632 | 14.3 | 0.0275 | 642 | 0.01316 | 307 | |
| Overground | 35 | 1677 | 20.6 | 0.03694 | 1276 | 0.015464 | 534 | |
| Daily Total | 98 | 4688 | 68,540 | | 3005 kg CO ₂ e | | 1112 g PM _{2.5} | |
| Annual | | 1,092,341 | 15,969,829 | | 700.26 t CO ₂ e | | | |

Tonnes of CO₂e emissions saved

41.4

6.0

% reduction of PM_{2.5} emissions

The aim for an asset is to increase the modal share of walking and cycling. This clean air calculator helps calculate the carbon and particulate savings that result from this. If an asset grows in size (number of occupants), then it is possible the transport emissions will also increase, even if more people are walking and cycling. The saving totals are calculated with the assumption cycle parking is fully utilised. The clean air calculator only accounts for primary modes of transport, other modes such as motorcycle and taxis are not factored for. We encourage clients to do their own travel survey to fully utilise this tool.

How many bicycles?

So, what type of growth are we witnessing? There has been a large move across many countries to introduce more bicycle lanes and bicycle infrastructure. There are an estimated 1 billion bicycles in the world, a number which could even be double according to some estimates. The most bicycle loving nations Denmark and Holland give us leadership examples of what the rest of us could aim for. Danes use their bicycles 25% of the time for all journeys that are less than 5 miles.

How do we encourage bicycle growth and bicycle culture? As we are all facing higher costs associated with food and fuel inflation, any help would certainly be welcome to get us bicycle ready. Currently there appear to be two main incentivization schemes – corporate incentives and government-led tax subsidies. As an example, since 2019, Google offers a cash incentive of \$500 to buy an e-bike and as a result they found their employees typically commute using a bicycle 1.7-2.3 days a week. Governments are also getting involved, offering tax subsidies as in the United Kingdom and promotion driven incentives as in Denver, Colorado.

So why stop at a voucher to subsidize the purchase of a bicycle. Why not reward people for using bicycles? As a social good, why doesn't the employer give a free meal for every 50 miles travelled? Certainly, this would get me pedalling a bit faster and longer. This goes hand-in-hand with studies that have shown that healthy employees take fewer sick days, are more productive, and benefit the company in many ways. So, the company would save on lost productivity through sick days and stress, and potentially lower insurance premiums with a healthier workforce. Buying a bicycle is step one, its continued use is step two.



Financial and Social Rewards

There are rating companies like ActiveScore that help landlords and tenants to rate the healthy activity of a building. Bicycles may not seem like a win-win-win-win proposition for society, but they are:

- *the bicyclist* wins from an active lifestyle.
- *the society* (neighborhood) wins from less pollution.
- *the office owner* win by higher valuation of their greener building.
- *the tenant* wins from taking better care of its employees.

Building owners win:

As building owners convert parking lots for future use, there are a plethora of financial benefits:

- *Parking lot conversions* – parking lots for new use as opposed to idle use.
- *Improved tenant engagement* – today's tenants demand more sustainable uses and in conjunction with other offers/green leases, this can lead to increased premium rents.
- *Social positive* – neighborhoods with fewer CO₂ emissions are by default what we are solving for and what everyone deserves.
- *Relationships* - closer working relationship with city governments.
- *Financial benefit of ActiveScore type certifications* – ratings can be utilized to drive down the cost of capital from banks in terms of green loan components. It can also be utilised within green leases to increase rents, increase net operating income, and increase building valuation.

Tenants win:

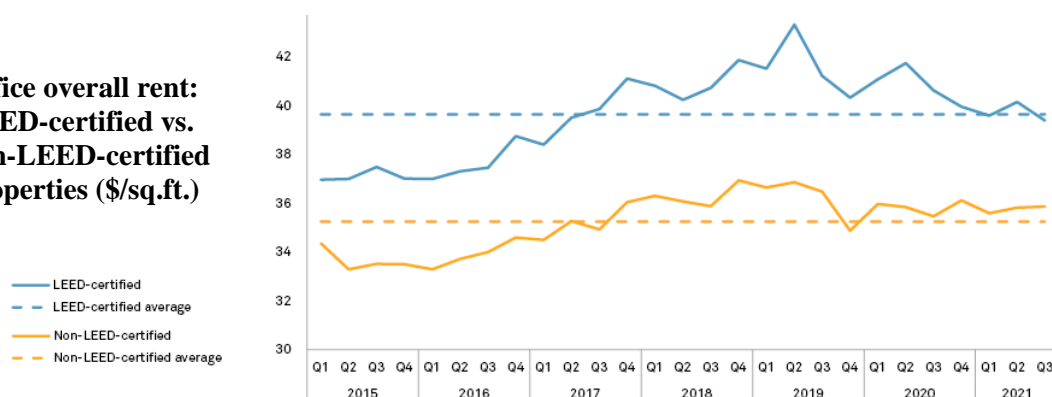
Similarly, as the building converts itself to becoming a healthier life choice, tenants will reap benefits:

- *Productive workforce* – there have been many studies on the correlation of health and productivity due to active lifestyles.
- *Fewer sick days* - other studies have shown healthier workplace have on average employees with fewer sick days.
- *Better brand image* - one of the top reasons corporations focus on ESG and health is of course the increase to its brand value.
- *Talent focus* – caring companies tend to have an easier time with talent attraction and talent retention (especially with GenZ/Millennials or the future workforce).
- *Green leases* – health is an important part of all our work and strategically utilizing it as a core part of a green lease will pay dividends.

There are plenty of other active travel modes not discussed in this report – scooters (push and electric), skateboards, running, walking, etc. All of them add up to new ways of transportation as the city transforms to a more liveable futuristic oasis and with continued growth in its population size.

Active lifestyles and the social and financial benefits from offering better access to them exist for both building owners and tenants. Below is a study by Cushman & Wakefield showing the rental price difference of a LEED certified building in the US vs a non-LEED certified building. This is the cumulative impact of an entire greener LEED building, but all positive factors impact higher rental yields and higher income for the building owners, including bicycles and active life choices.

**Office overall rent:
LEED-certified vs.
non-LEED-certified
properties (\$/sq.ft.)**



Data extracted Oct. 20, 2021.
Includes four- and five-star office assets in urban and central business districts delivered between 2010 and 2020.
Sources: Cushman & Wakefield; CoStar

Tomorrow's city is full of new incredible opportunities for a more inclusive environment, we may not have all the answers yet. However, I do believe we are at the start of a multi-decade transformation of cities that will include more bicycles, fewer cars per capita, fewer parking lots, more alternative transportation modes and more green parks. Cities will become the *greener* oasis they always should have been, and the bicycle is one of the enablers of this dream to become reality. Implications for office valuations, parking lots and tenant engagement are clear. It's great to see that LEED, BREEAM, and many building certifications already measure active lifestyles in building ratings. It's equally interesting to see organisations like ActiveScore (activetravelscore.com), which focus 100% on active lifestyle ratings for our building environment, becoming instrumental in this transformation.



Author: Johan Tellvik

CEO, ESG Real Estate Laboratory
esgrelab.com
Stockholm, Sweden