QUIET COMMUTE 2015

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sustainable silence:

small aural footprint, small ecological footprint.

Tread softly, because you tread on my dreams. - William Butler Yeats

quieter is better

The quieter, the better. Noise generally means inefficient, polluting, gas-fired explosions. A large amount of energy in combustion engines escapes as noise and vibrations, which points to much *more* energy lost to waste heat and inefficient energy conversion.

Noisy transport creates an inhuman environment in two ways:

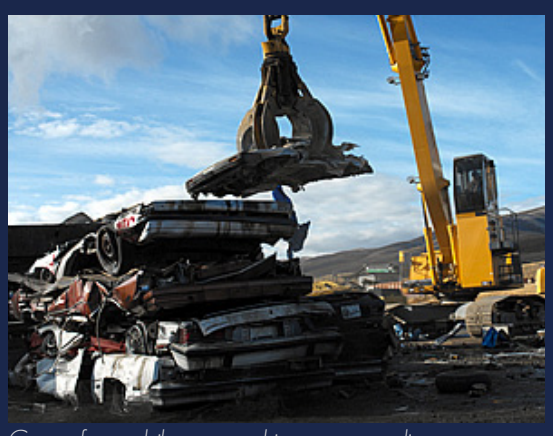
1. Loud: humans can't communicate over passing cars or the roar of the freeway. When humans can't communicate because noise levels are too high, they are in an inhuman environment.
2. Ecological damage: engine noise generally indicates explosions, which are inefficient, difficult to control, loud, and dirty.

biomimicry: nature as silent model

No animals in nature are as loud as the explosions that occur thousands of times per minute in a petroleum-fueled engine, passenger car or passenger jet. Engines are everywhere, and are polluting our world, both environmentally and *aurally*.

Predators and prey both move as quietly as possible, so as not to make their presence known. Take, for example, the fearsome predator below: this kitten stalks bugs silently, so they don't fly away prematurely. In addition, the kitten *does not waste energy*. We could take inspiration from this. Not because we should always be on the prowl, but because we should consider the sound we make, how it might affect others, and recognize that this sound points to inefficient energy conversion.We should not make ourselves heard unless we actively need to.

A kitten quietly hunts bugs for the first time.



Crane for mobile car-crushing <wmrecycling.com>.

Crushed cars <cs4fn.org>.

save space

Cars take up an extraordinary amount of room, compared to bicycles. Roads are expensive to build and maintain, especially when driven on by multi-ton vehicles thousands and thousands of times per day.

The image to the right compares the space required to transport a fixed number of people by car, bus, and bicycle. Buses are certainly a good alternative to cars, but bicycles operate pollution-free and provide exercise for riders.

London Biycle Sharing System <inhabitat.com>.

Mock-up of smartphone bicycle-sharing application. iPhone image courtesy <breakitdownblog.com>.

lifecycle sound

We must look at sound produced both upstream and downstream in a product lifecycle.

Clever acoustic damping techniques to a large degree hide the pyrotechnics in engines all around us. But why cover up the problem? Why not get rid of the original *source* of the noise?

Also, it's not just enough to consider the sound a vehicle makes when driven. Some cars are very quiet, due to crafty engineering and noise damping, but still run on explosions. Therefore, we must analyse "lifecycle sound". This includes sound made during production (stamping steel), during driving (explosions), and at end-of-life (smashing cars and grinding them into scrap metal). These processes are LOUD, ear-piercing, and waste a ton of energy. Excess sound indicates that there is probably a lot *more* energy being wasted in heat.

Amount of space required to transport the same number of people by car (left) and bicycle (right). Poster in City of Münster Planning Office, Germany, 2001 <core77.com>.

a solution

Bicycle sharing with smartphone integration. Why? Bicycles are quiet, and don't waste much energy. They don't pollute (after manufacturing). How? Distribute a network of major public bicycle stations every ten blocks. Each station could store hundreds of bicycles; bicycles do not take much space to store, compared to cars. Every block, place smaller lock-posts for several bicycles, with Wi-Fi Internet connections that keep track of how many bicycles are locked there. When you need to start a commute, pull out your smartphone and hit a button for "Commute". Google Maps pops up, identifies your location via your smartphone's Wi-Fi or GPS, and overlays all the nearest bicycle lock-posts and major stations. You walk to the nearest available bicycle, swipe a member card or your regular credit or debit card, and ride away on the unlocked bicycle. When you reach your destination, simply lock the bike at the nearest lock-post or major station.

Offer incentives for cycling, such as tax breaks or contests for most miles cycled. This system could interact with a carbon cap-and-trade market, allowing people to sell carbon credits offset by cycling.

Above all, such a convenient system would allow people to commute quietly, efficiently, and compactly and to exercise regularly. It would save space, time, money, energy, and pollution from fossil fuels.