



# Bicycles, Cars and People

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**Do you have topic ideas? Comments or questions?**

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**W**hat do “Bicycles, Cars and People” have to do with management? Management is all about optimizing human endeavours – trying to make things work better among arguing people. Since motorists, bicyclists and pedestrians argue about each other incessantly, this certainly falls into our realm of interest. Why do they argue so much? Because each feels the other infringes on their mobility territory too often.

They all infringe on each other because:

- bicyclists and motorists share the road
- bicyclists and pedestrians share the pathways
- motorists and pedestrians share the intersections

We at CCCC continually try to get the message home that emotions must first be neutralized, or at the very least, recognized. That is, emotions define our choices which we then follow up with great logic as to why we are ‘right’. So, in a nutshell, Eric the bicyclist thinks he is right because he is saving on pollution and exercising diligently. Madonna the pedestrian thinks she is right because she, too, is saving on pollution but being modest about it. Finally, Harry the motorist, says the roads were built for cars and that without them he could not get to work each day to help save the world. All view the others as less right, if not a downright nuisance or imposing a hazard.

### A. Facts:

1. They all infringe on each other as noted above:
2. There is a great difference among the momentum of each moving group (in city traffic). Relatively speaking<sup>1</sup>:
  - a pedestrian moves with about **1** ft-lb/second momentum
  - a bike moves with about **6** ft-lb/second momentum
  - a car moves with about **70** ft-lb/second momentum
  - a small truck or SUV moves with about **100** ft-lb/second momentum
  - a large truck moves with about **200** ft-lb/second momentum
3. If there is a collision between:
  - a bike and a car: the bike is at a 70/6 to 200/6 or **12 to 33 times** disadvantage.
  - a bike and a pedestrian: the pedestrian is at a 6/1 or **6 times** disadvantage.
  - a person and a car: we don’t even want to think about it.
  - a person or bike vs. a truck or bus: likewise, we don’t want to think about it<sup>2</sup>.

What does it mean? A car with a 12 times advantage over the bike is like a person being wrestled with by three 600-lb polar bears at the same time. A 33 times advantage is like an unarmed person being confronted by 9 polar bears at the same time. Do we need to ask who would win?

4. Every pedestrian and every bicycle on the road, instead of a motorized vehicle, reduces green-house gas emissions, increases individual health and reduces road congestion.
5. Building a bike pathway, costs no more than 1/20th of the cost of building a new roadway. Building exclusive pedestrian walkways costs 1/20th of the cost of building new roadways.

### B. Conclusions:

#### From A1 to 3.

Viewing the situation from a safety perspective, the above suggests, if there is to be any sharing, bicycles and pedestrians should share a pathway, not bikes and cars (and certainly not cars and people – somehow we figured that last one out already).

#### From A4.

The community should take steps to encourage bicycles and pedestrians in order to:

- reduce green-house gas,
- reduce road congestion and
- improve personal health.

#### From A5.

Save money by spending 1/20th per person (note that most vehicles carry only 1 person) by building more pedestrian and bike pathways. Save money by fewer auto accidents to attend to, policing, and to clean up after. Save money by having fewer health concerns later in life.

#### Add A6.

Insisting that bicyclists wear helmets as they confront cars is like insisting that the Christians

<sup>1</sup> These numbers are about 5 times greater. They have been ‘normalized’ to 1 for the pedestrian for ease of reading.

<sup>2</sup> In early September 2009 a bike and a bus collided in downtown Ottawa, killing the 39-year old cyclist.



in Roman days confront the lions wearing an extra vest – or in a money count, focusing on change in the pocket instead of dollars in the wallet. That is, the current safety focus is the focus on the lesser of two evils.

**C. Simple Solution:**

If pedestrians and bicycles are to be encouraged following the ethical logic of #1 to 4 and the financial advantages of #5, then take the city’s current roadways capital budget and divide it in three:

- 1/3 for new motorized vehicle roads
- 1/3 for new exclusive bike pathways (including tunnels under busy roadways)
- 1/3 for pedestrian pathways (including tunnels at busy intersections)

(Because of winter snow cleaning in Canada, tunnels may be preferable to overpasses.)

Measure the flow of pedestrians, cars and bicycles at two years intervals thereafter. Readjust the allocation of capital bi-annually according to demonstrated usage.

**D. Other Recommendations:**

While on the subject of traffic control, the following are recommended by this writer.

**i. Remove speed bumps**

Speed bumps achieve little other than annoying drivers and snow plough operators. If speed in residential sections is the issue, install stops signs at every spot of every block that has or would have a speed bump. Stop signs are more effective, cheaper and less annoying.

**ii. Get rid of spoilt-brat streets<sup>3</sup>**

Traffic flows best if it has many options, just as liquid pouring down a manifold flows more smoothly. If you block access to one street, someone else has to pay with more traffic. Blocking the streets in one part of the community forces more traffic on the other arteries which the residents living on those arteries have to tolerate. Or other residential streets have to take the traffic abuse of all the people trying to exit the ‘fixed’ traffic plan. The spoilt-brat diversions<sup>4</sup>, may intend to make the traffic more bearable for some preferred residents, but those changes introduce extra routing which means extra car driving which means more pollution into the atmosphere. Does the left hand know what the right hand is doing?

**iii. Make tunnels for cars**

Guadalajara Mexico, sometimes called the Silicon Valley of Mexico, parallels North American cities in many ways. However in traffic flow, in certain aspects, Guadalajara is much more efficient. Guadalajara copes with traffic at busy intersections with tunnels to allow direct traffic to pass through without molestation. Guadalajara has dozens of these tunnel/overpass combinations. Other cities have chosen this way to ensure better traffic flow too, London England, for example. Better traffic flow, means less pollution is spewed into the air by cars held up on their journey by stop lights.

**iv. Stop traffic to the downtown core**

Be bold. Draw a line from the south to the north, and from the west to the east encompassing 1 to 3 sq. Km. area all pedes-

trian or bicycle based<sup>5</sup>. No cars. Commercial delivery vehicles and taxis: ‘yes’, resident’s vehicles: ‘yes’ but all other motorized vehicles: ‘no’. Prague, a leading European City has such an area, as does Venice and to some extent, Vienna. The result: throngs of people enjoying downtown life and hundreds of merchants enjoying increased business levels. Not to mention a reduction in pollution and more cardio-vascular induced individuals. Of course there must be an upsurge in parking garages surrounding the area and an increase in cleverness in installing covered pedestrian walks for winter. (Prague and Vienna have winter seasons too.) Rochester NY and Winnipeg MB. are good examples of the wide use of winter pedestrian protection walkways and tunnels. Any city can lay out such a region, of course. Suddenly a key area for the heaviest bicycle traffic becomes available avoiding extra path designs, construction and costs (as suggested in #C above and E below) since the paths would no longer be required in the core.

**E. Cost:**

A lot less than whatever the city is attempting to do now, but as a rough estimate:

**From D.i.**

Removal of speed bumps, while costing something now, in the long term, say five years, will be much cheaper – stop signs vs. speed bumps. The savings seem to be there.

**From D.ii.**

It will take one day to remove all the spoilt brat barrier and signs, say \$1,000 for one person and a vehicle at City rates.

**From D.iii.**

While a tunnel is not cheap, neither is the option of having to widen a street, or to make other roads to allow increased traffic flow (which, with time, can only increase). What about the savings of reduced accidents? While car insurance doesn’t come out of the city budget, it does cost our society, nonetheless. What about quality of life? Call this at least a saw-off.

**From D.iv.**

Cutting off the downtown traffic flow can be done with simple chains across the street in question. A 1 sq. Km. area has about 30 streets = 30 chains at an outrageous price of \$1,000 each, would be \$30,000. Pedestrian winter walk-ways can be part of any developer’s new building project – zero cost to the city. Eventually with time, a network of covered walkways will evolve. Give it time to develop.

**Total Increased Cost: \$31,000.**

Well that’s it. Another logical idea to be tossed into the trash can because ‘I like cars’ or ‘I like special sections of town, especially mine’ or ‘I like bicycles’ or ‘I like rapid transit’ which ‘I will logically defend till the cows come home’.

Bill Caswell

<sup>3</sup> I call these spoilt-brat streets because city fathers and mothers have decided these residents are special and cars will not be allowed on their roads. That is these residents have a treat that others do not have – in fact others have to pay for them in some way.

<sup>4</sup> By the way, I am not picking on upper crust: I used to live on a spoilt-brat street. I objected to the signs then, just as much as I do now. In fact I used to, and still do violate them whenever it pleases me to do so.

<sup>5</sup> In Ottawa this would enclose the space north of the Queensway between Bronson and the Canal.