

# Vectormart

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## Introduction

This started as a thought experiment, a techno-art project and later (after a little 'encouragement') an ideal for a real project. Probably it is hopelessly ambitious and idealistic.

The initial idea was, in fact, to do with my hitch-hiking in and around the UK during the late 1960s and thus noticing the huge amount of spare capacity in the road system, in that case 'empty seats' that were constantly moving around. Later, the US acknowledged this by making preferential lanes for multiple occupancy<sup>1</sup>.

The second part of the idea was taken from X25 and later, as it became dominant, TCP/IP, the idea of packet switching<sup>2</sup>.

So, this became 'physical packet switching', an affair of routes and hubs that could move everything (fairly small, although there are boards for larger loads<sup>3</sup>, including humans of various sizes<sup>4</sup>) and mop up all the space capacity that was moving around in (at least) cars and vans. There are several parts to this, a) the central idea and motor, the packet switching b) the infrastructure, routers at least, even if informal<sup>5</sup> c) the social and security aspect, no bombs, no murderous sociopaths d) governance, preferably by a non-profit e) arrangements for exchange of value to support d) and to provide incentives/cover costs etc.

It is also clear, that this is more leisurely than the current point to point system, not a big thing, since part of a greener world is slowing down cycles (product cycles, transport, working 'less') on everything to create a less frenetic world that, sooner or later, might 'cool'.

## Central Idea and Motor

The heart of this is the a) sophisticated matching engine and b) an 'informal' and situated interface.

1 [https://en.wikipedia.org/wiki/High-occupancy\\_vehicle\\_lane](https://en.wikipedia.org/wiki/High-occupancy_vehicle_lane)

2 [https://en.wikipedia.org/wiki/Packet\\_switching](https://en.wikipedia.org/wiki/Packet_switching)

3 <https://www.shiPLY.com/courier-auction/>

4 <https://www.lyft.com/rider/cities>

5 <https://en.wikipedia.org/wiki/Slugging>

Actually, the matching engine was part of another project, a meta-matching engine that could be parameterised and used to create specific, custom matching engines, one for dating, one for buying fish and so on.

However, geography and transport has its own challenges and special features, map coordinates, time and date of departure, vehicles and vehicle capacity, rider and driver preferences, for example. Beneath that, there are, for example, subarcs that would permit people to engage in convenient partial journeys and also fuzzy matching<sup>6</sup> for departure places and geo matching (for example<sup>7</sup>) for places that are near or part of route.

Beneath this, there are two hidden bits of the iceberg, a huge set of anonymised but publically available, open licence data and stymergy<sup>8</sup> based initiatives, extracted from the data. For example, if the data is showing a great many frequent trips (or, indeed, unsatisfied requests for trips) between A and B for individual travellers, then maybe the time has come to think about a nice electric bus of a convenient (data, again) size. This, apparently opportunistic mechanism could also be augmented by indirect investment via social policy bonds<sup>9</sup> however this is icing on an already rich cake.

The motor was the only piece of this that was currently subjected to experiment, first via a relational database and secondly via no-SQL database, both with geographic extensions. The front runners are still Postgres<sup>10</sup> or Elasticsearch<sup>11</sup> however, too many choices, as always and graph databases<sup>12</sup> also now maturing 'nicely'.

## Routers and Infrastructure

This bit is up for grabs, but could start informally via slugging (qv, in footnotes) and then become more formalised. Incidentally, this is the way old-fashioned transport with half-way inns and relays probably developed. No heavy infrastructure is needed if there are no overnight or longer stays, just shelters and convenient parking places. However, for parcels and deliveries some kind of depot system would be needed.

The computing infrastructure is also to be determined, this also links with the governance of the project.

## Security Aspects

This, of course, was a constant worry and problem when hitchhiking in the 1960s. It's very difficult to provide precise statistics on the dangers, but here<sup>13</sup> is an attempt for USA, intuitively a more dangerous place than the UK. Now I'm old, I worry more about my slippers and falling downstairs<sup>14</sup>.

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6 <https://github.com/seatgeek/fuzzywuzzy>

7 <https://www.elastic.co/guide/en/elasticsearch/reference/current/query-dsl-geo-bounding-box-query.html>

8 <https://en.wikipedia.org/wiki/Stigmergy>

9 <http://socialgoals.com/spbs600words.html>

10 <https://www.postgresql.org/>

11 <https://www.elastic.co/>

12 [https://en.wikipedia.org/wiki/Graph\\_database](https://en.wikipedia.org/wiki/Graph_database)

13 <https://wandriymagazine.com/article/hitchhiking/>

14 <https://static.guim.co.uk/sys-images/Guardian/Pix/pictures/2011/1/14/1295014011796/Mortality-statistics-grap->

However, some of the work here has already been done by existing sites and the web in general, but, especially dating sites. Some of the characteristics are:

- Checks when initially subscribing
- How long a user
- How many journeys
- Ratings (controversial, positive only?)
- Tell a friend when travelling
- Identification for driver and travellers
- Preferences, female only, male only, for example

Moving packages would, of course, in this terror-driven and paranoid world require some extra measures and extra infrastructure, including, perhaps staffing on the routers that carried that traffic. However unpacked deliveries, especially local, household appliances and bits of lumber, for example, would be fine as their 'contents' are immediately visible. One of the reasons for pushing for this, in fact, is that it would consolidate the huge number of vans and trucks in urban settings. Again, as for passenger transport, some of the favourite routes would begin to appear in 'thickened' route traces, thus becoming candidates for something more institutional, either profit or non-profit.

## Governance

Currently the larger ride sharing and hitchhiking platforms are run, for profit, by private organisations<sup>15</sup>. However, there have been government experiments, see the commentary for Norway, for example, in reference 15 above.

The optimal, new economy way forward would probably be either a cooperative, a group of federated cooperatives or social enterprise of some kind like a Community Interest Company<sup>16</sup>. My intuition is that a federated model (of anything, in fact) would be best, since, in principal, it would be more locally responsive. However, this has two clear challenges a) a potential problem of silos and toxic (for the sake of it) competition b) technical challenges, since databases probably need to be shared (or viewed as a 'whole') and one set of consistent APIs<sup>17</sup> is needed.

There's no clear, 'right' answer to this and the best way forward may be experiments and pilot schemes on a local scale.

## Exchange of Value

Exchange of value, for example payment to vehicle owners has a lot of consequences both for legal issues and social orientation. However, incentives and rewards are needed, probably on both sides (since the riders are not using their own vehicles, for example, a benefit) of the equation.

I believe the best way to organise this may be some form of social currency that is (perhaps) partially convertible into a conventional national currency. If the whole organisation is done with

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[001.jpg](#)

15 [https://en.wikipedia.org/wiki/Peer-to-peer\\_ridesharing](https://en.wikipedia.org/wiki/Peer-to-peer_ridesharing)

16 [https://en.wikipedia.org/wiki/Community\\_interest\\_company](https://en.wikipedia.org/wiki/Community_interest_company)

17 [https://en.wikipedia.org/wiki/Application\\_programming\\_interface](https://en.wikipedia.org/wiki/Application_programming_interface)

national currency and a for-profit, we have a sophisticated taxi and delivery service, owned in majority by a few shareholders.

I am against any cries of 'blockchain' as I do not believe that it solves any problems, whatsoever. I'm a (qualified, see the rest) supporter of mutual social credit<sup>18</sup> in the form of a complementary currency<sup>19</sup> that is (perhaps) partially convertible at a discount to national currency. However, this is also guesswork and the currency would need some design work, probably including demurrage<sup>20</sup> so that levels of activity would maintain and the currency would not be pooled in one place.

## Motives and Incentives

Of course, there must be reasons, apart from soggy green (I am a Greenie, but, I hope, a pragmatic one) ones to develop and use all of this. So here are a few possibilities:

- Soggy environmentalism, being aware of the environment but unwilling to wear a hair shirt
- Social policy bonds and other central or local government incentives
- Sociability effects, not riding alone, for examples
- Rewards in the social or complementary currency associated with the 'system'
- No huge infrastructure costs, compare HS2 for example
- Helps to meet (also soggy<sup>21</sup>) international environmental targets
- Almost certainly some work and cash can be made out of some of the jigsaw pieces

I'm sure there are others. As usual, this is a living document, so a new version will appear in a few months.

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18 [https://en.wikipedia.org/wiki/Mutual\\_credit](https://en.wikipedia.org/wiki/Mutual_credit)

19 [https://en.wikipedia.org/wiki/Complementary\\_currency](https://en.wikipedia.org/wiki/Complementary_currency)

20 [https://reinventingmoney.com/greco-comment\\_on\\_worgl/](https://reinventingmoney.com/greco-comment_on_worgl/)

21 <https://cop24.gov.pl/>