

Council Spending on Roads

In this note, it will be explored how charging fiat institutions with the construction *and* upkeep of common infrastructure leads to their deterioration. This will be done by examining municipal expenditure on roads, comparing that of Rotterdam City Council and Kingston Upon Thames Council, those being examples of fiat institutions charged with constructing *and* maintaining road networks. The general structure of these institutions is to take tax from citizens, and then to budget this towards projects at the discretion of council members, who are often affiliated with political agendas.

Construction of infrastructure can range from clearing a pathway to establishing a rail network, but in all cases should serve to improve ease of access within and between conurbations. When it is considered that carriage (of goods) is essential to all exchange, this can be generalised, so that construction and maintenance of infrastructure (or carriageways) serves to improve the coordination of exchange.

The essential nature of carriage in exchange can be demonstrated when considering a case in which one wishes to exchange a surplus of apples from one's tree in the garden for some other good, that one does not have in surplus. One's closest neighbour, say 1/4 mile away across a field, may have some strawberries in surplus, and be willing to accept apples in exchange. Making the exchange will involve walking across the field with apples, and returning with strawberries. Another opportunity may exist, a more distant neighbour over a hill may have a surplus of milk, and be willing to exchange this for apples. Likewise, the exchange can be actioned only by carrying the relevant goods over the hill and back.

According to one's personal requirements and desires, one of these exchanges will be preferred over the other. More importantly in this discussion, the necessity to carry goods to and from the site of exchange will play a role in how those preferences are ordered. Perhaps, if the closest neighbour had both strawberries and milk on offer for one's apples, milk would be taken in exchange. But in a situation where exchanging apples for milk involves carrying those goods over a hill, that exchange is forgone in favour of strawberries that only need carrying across a field.

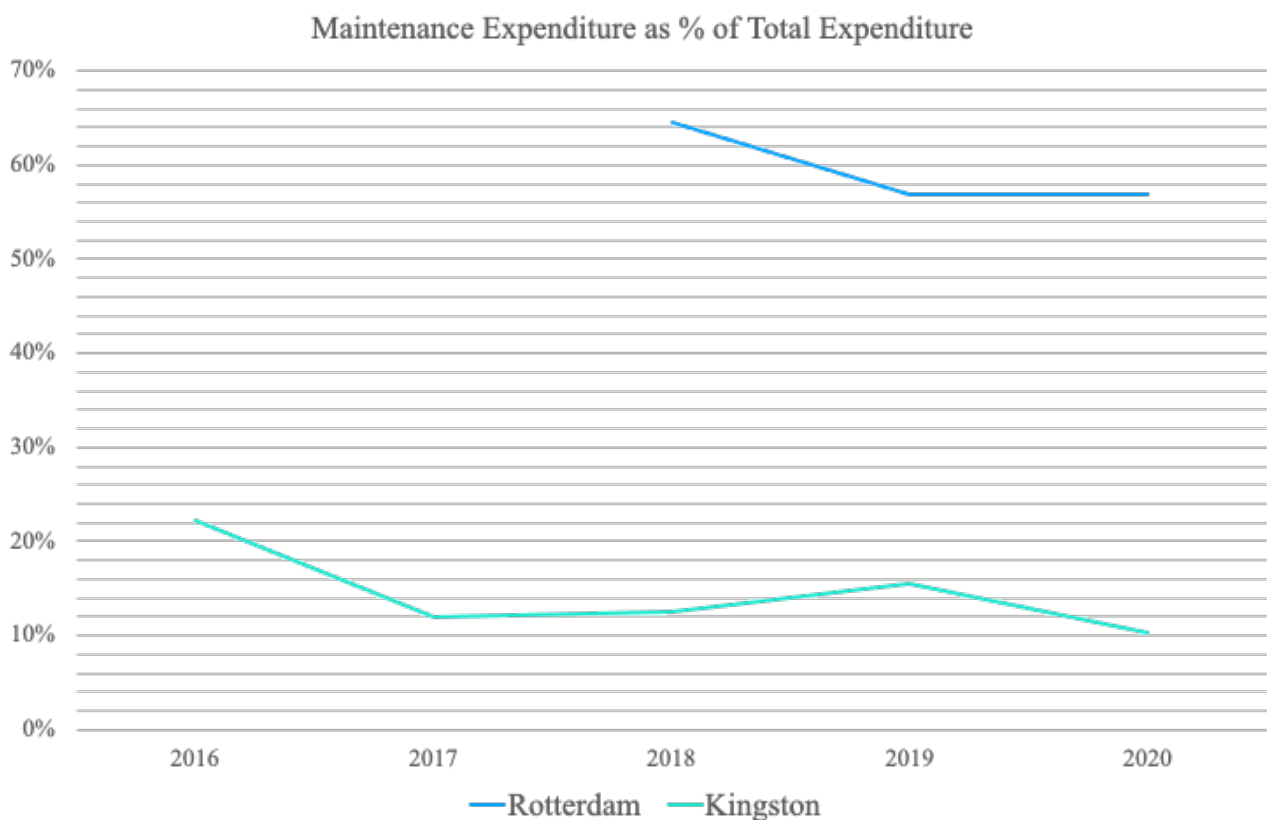
Clearly, ease of access imposes some limits on which exchanges are worthwhile to undertake. In this way it is demonstrated that developing *and* maintaining infrastructure to improve ease of access should serve to improve the coordination of exchange. As a corollary, it is found that goods that will be promoted to moneys, will be ones that are most happily carried to and from sites of exchange.

If the goal to improve coordination of exchange is aimed for by those charged with construction *and* maintenance of carriageways, then it can be speculated what might happen to the total cost over time, as well as the ratio of maintenance costs to construction costs. It is evident that as more carriageways are constructed, this creates greater possibilities for exchange, since the limiting factor that precludes some exchanges from occurring is reduced.

Nevertheless, there is a limit to what is worthwhile to construct in seeking improved ease of carriage. This is because the last exchanges to *not occur* due to costs of carriage being excessive, will be those for which the increase in marginal utility experienced by the participants of the exchange is only small (in comparison to exchanges that have already been facilitated by improved ease of carriage). Before such marginal exchanges can be facilitated by improved carriageways, the cost of such carriageways must decline. This shows that over time, the total cost of construction and maintenance should be falling, if improved coordination of exchange is sought after.

Moreover, it is to be expected that the ratio of maintenance costs to total costs of infrastructure will increase over time, when attempting to improve coordination of exchange. Infrastructure development not only reduces cost of carriage, but also facilitates the establishment of marketplaces. A carriageway becomes part of a *network* of carriageways, with marketplaces connected to each other. As a consequence, maintenance of existing carriageways in the network is expected to become more important than expanding the network with new carriageways.

If coordination of exchange is held as the goal when developing *and* maintaining infrastructure, it is speculated that total cost of construction and maintenance should decline, while the share of maintenance costs in the total should increase. This expectation can be compared to what is actually observed when roads are under (fiat) Council management.



An immediate difference between Rotterdam and Kingston Councils can be observed, which is that Kingston Council spends far more on constructing new roads, as a percentage of the total expenditure. This can be explained by the fact that Kingston Council funds maintenance of roads locally, while it receives central government funds for new construction. In comparison, Rotterdam has been receiving decreasing contributions from non-Council sources towards its total budget for both construction *and* maintenance. Upwards of 90% of total spending on roads is locally funded in Rotterdam. Clearly, Kingston Council is happy to spend more on new construction than on maintenance, because they do not have to raise the funds for this themselves.

Both Councils however, show decreasing expenditure on maintenance, relative to their total expenditure. This coincides with an increase in total expenditure over the years examined. This is opposite to what is expected, when construction *and* maintenance of roads is meant to improve the coordination of exchange. What goals the members of Rotterdam and Kingston councils do have, can only be speculated. In Rotterdam, newly constructed towers will require service roads. Apartments in such towers are priced at €500'000 ~ €1'500'000. Similar projects are also underway in Kingston. In Rotterdam, at least, construction efforts are made to look like creating more

pedestrian-oriented zones, with less space dedicated to cars. However, this can also be construed as an effort to increase footfall around retail centres, which are antithetical to true exchange, because they are occupied by mark-up “business models”. In any case, there is no evidence to suggest that Rotterdam and Kingston councils are motivated to improve ease of carriage in an effort to facilitate exchange between citizens.

	Rotterdam (€)				Kingston (£)			
	Maintenance	Construction	Total Expenditure	Maintenance as % of Total	Maintenance	Construction	Total Expenditure	Maintenance as % of Total
2020	28'367'996	21'568'459	49'936'455	0.568	449'907	3'908'054	4'357'961	0.103
2019	30'233'823	22'885'439	53'119'262	0.569	669'114	3'646'840	4'315'954	0.155
2018	29'756'689	16'406'948	46'163'637	0.645	630'215	4'435'311	5'065'526	0.124
2017	43'058'595				664'167	4'879'143	5'543'310	0.120
2016	42'131'037				599'758	2'094'662	2'694'420	0.223
2015	59'222'272							
2014	55'215'167							
2013	12'761'133							