

Environment & Transport Select Committee
 10 January 2013

Surrey Highways – New Carriageway Investment Plan

To provide Committee Members advance notice of the recommendations to adopt Five Year Investment Plan for carriageways from April 2013, and provide detail on reasons behind the recommendations and how the programme will be delivered in practice.

SUMMARY OF ISSUE:

1. The highway network condition is measured nationally by the Road Condition Index (RCi), available via Department for Transport (DfT) website, with each highway authority required to assess its road network using predefined engineering assessment and methodology. The RCi classifies the entire road network into three categories:
 - Green – good road condition
 - Amber – in need of maintenance but not critical
 - Red – road in critical condition
2. Nationally the RCi advises that in the UK average of **10%** of the local road network was classified in the red zone, the worst category. However, the average in Surrey was significantly higher, with **17%** of the network classified as poor.
3. Data confirms that although Surrey County Council (SCC) is maintaining high speed SPN1 and SPN2 in generally good condition, the road condition in low speed residential and rural areas is relatively poor leading to overall negative resident satisfaction with highways, see table below:

Category	Road Length (km)	% of Road classified as Red	UK Average Road Conditions Index
Principal Network (SPN1)	620	7%	5%
Non Principal Network (SPN2 & SPN3)	1025	10%	8%
Unclassified (SP4a & SPN4b)	3207	21%	16%

4. Over the next five years, SCC has allocated £18m a year to replace roads classified as critical (red). In 2010 cost savings as part of the new May Gurney

contract enabled the authority to increase the amount of road replaced to 65km per year (i.e. 1.3%). On current projections it would take a minimum of 13 years to repair the structural backlog of poor roads.

5. A road assessment in 2010 determined it would require a one off cash injection of £200m to remove the historic 17% backlog of worst roads, a funding level not achievable in an era of austerity in public finances. However, equally it was accepted that the status quo was not an acceptable option.
6. In 2011 Surrey Highways therefore launched “Project Horizon” a joint partnership with Surrey Highways, May Gurney, materials manufacturers and industry leaders to investigate radical options to fundamentally address the historic backlog and improve overall road condition without the need for £200m funding investment.
7. The outcome of this review will be submitted to Cabinet in February, this report provides an early review of the project cost and quality solutions which are intended to ensure that 10% of the worst roads are replaced in five year period.

DETAIL:

Cost Saving Solution One - Longer Term Planning

8. The primary aim of Project Horizon was to increase the amount of kilometre of critical (red) road replaced each year from 60km to 100km, without a significant increase in funding.
 9. This would enable 10% of the network to be replaced in a five year period, improving productivity and reducing the time it would take to repair the structural backlog from 13 to 8 years.
 10. As part of the project a series of workshops were held with highway specialists to identify a number of common factors which they felt restricted them in their ability to provide efficiencies within rates:
 - No guarantee of work volume meaning that opportunity is limited in agreeing bulk purchasing arrangements and fixed prices with suppliers.
 - No continuity of workload throughout the year which results in a higher level of staff downtime risk being priced.
 - No visibility of workload restricts effective input into annual programmes and sequencing of works. A direct result of this is that higher transport costs are anticipated due to inefficient working and these are subsequently reflected in pricing.
 - Unfavourable payment provisions limit ability to manage cash flow and thereby offer better payment terms to suppliers in return for better prices.
 - Unpredictability of bitumen prices means that specialists cannot obtain long term fixed price arrangements with suppliers of surfacing materials.
 11. The primary savings opportunity identified from the review was the therefore the cost benefits in moving to a fixed **five year** works programme, rather than
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12. A tender exercise was therefore undertaken with May Gurney's supply chain to confirm what level of discount would be provided if Surrey moved to a five year investment plan of fixed schemes.
13. The tender exercise confirmed that a fixed five year programme would save **11%-12%** on existing contract rates.

Cost Saving Solution Two - New Materials & Improved Road Design

14. The project team also spend considerable time researching the market and working with material manufacturers to identify new innovative materials.
 15. An early win of this new design process has been the opportunity to identify a new material for low speed residential roads, with Aggregate Industries proposing a new product "Superflex" to be used as the standard material for these road types.
 16. Superflex has been used in the Highways Agency strategic network and piloted in one other local authority, and this has led to the following key benefits:
 - Improved moisture resistance, keeping water out over longer period that ultimately creates potholes
 - Extending road life with minimum 10 year design warranty
 - The material solution can be constructed faster leading to reduced construction time and disruption to the network
 - Adopting Superflex as the standard County material for low speed roads will realise a further **1% to 3%** over the five year period
 17. In addition to the use of Superflex, a number of additional design opportunities have been identified that could potentially lead to further cost savings and/or condition improvements
 1. **Road Strength** – a number of Surrey roads were not built for existing traffic volumes. The current limited design process does not allow time for traffic volume to be fully considered in replacement. However, the increased design time as schemes would be planned over five year period, will enable highways to explore strengthening specific roads based upon existing or projected traffic volume, leading to less costly defects and extending road life.
 2. **Surface dressing frequency.** The standard network demands the intervention of specialist surface treatments every 7 years. This equates to two intervention cycles throughout a 20 year lifespan. By increasing construction depth and using more durable materials, the road life can be extended and the frequency of required intervention reduced.
 3. **Concrete Roads** – defective concrete roads can be noisy and disruptive to local residents, however, they are equally the most expensive roads to repair. Longer term planning will enable the authority to identify and exploit new opportunities to reduce the cost of replacing concrete roads.
 4. **Drainage** – surface water is the greatest cause of road defects,
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increased planning will enable officers to assess all road conditions and implement solution that will not only replace road surface but will remove the constant build up of surface water.

18. The savings opportunities above have opportunity to provide a further **1%** in value engineering savings.

Cost Saving Solution Three - Improved Site Management Productivity

19. The existing process leads to a large amount of unproductive time, with surfacing gangs standing around waiting for schemes to commence. A new process will therefore be implemented from April to increase gang productivity. A key part of new process is the adoption of a new "Vehicle Relocation Policy".
20. One of the greatest on-site delays is parked cars preventing the road being re-surfaced. Gangs sometimes have to wait up to two hours until the owner of the vehicle is located, and in worst case scenario scheme can be aborted, e.g. owner on holiday, this can lead to abortive costs of between £5 - £20k.
21. An alternative solution is to implement a "Vehicle Relocation" policy which is currently delivered in other Highway Authorities. Under this policy May Gurney will be provided permission to re-locate parked cars to the nearest available street.
22. May Gurney will be required to provide one week's advance warning prior to removing cars and will be fully responsible for any damage caused as a result of relocation. Police & SCC Contact Centre will also be informed of the new location of any cars, which will normally be placed in the adjacent street.
23. The above policy, in tandem with improved road management and working restricted hours, is estimated to save **1% to 2%** over the five year period, which will be re-invested in Surrey network.

Cost Saving Solution Four - Improved Waste Management

24. Like all industries, the costs of managing waste is a key issue for Surrey Highways, with two key cost drivers:
- **Hazardous Material** – Prior to 1980 the majority of roads were built using coal tar which is now classified as hazardous waste by the Environment Agency. It cannot be recycled and can only be disposed of at a limited number of specialist facilities. In 2012/13 Surrey spent over £0.8m removing tar from roads.
 - **Landfill Waste** It is estimated that under the current way of working Project Horizon would generate road planings waste in excess of 300,000 tonnes over the 5 year period, all incurring landfill waste tax.
25. The Project Horizon team have therefore explored identified a number of alternative innovative solutions to each cost area:
- 1) **'Tar Remediation'**. The process employs enzyme technology which neutralises harmful 'poly aromatic hydrocarbons' contained within the tar bound planings. The resulting product is a neutral aggregate which can be recycled and is expected to reduce disposal costs by up to 10%-20%.

- 2) **Waste Income** – opportunity to re-sale planings generated from roads in a variety of recycled base, binder and surface course materials. There is also an opportunity to explore new income streams outside of highways including construction and international markets;
 - 3) **Mobile Asphalt Plants** - this can be erected a short distance from the resurfacing scheme and produce and supply recycled asphalt materials direct to the site, with massively reduced transport and haulage costs.
 - 4) **'In situ' road recycling** involves using specialised heavy machinery to recycle existing road surface (to varying depths) and mixing with new material to enable it to be relaid as a new strengthened road surface. Costs savings of up to 30% per scheme has been identified and comparable road life up to 20 years..
26. The alternative processes detailed above will not be suitable for all roads, however, the fixed five year programme provide the opportunity for Surrey Highways to work as part of the SE7 to exploit the potential savings in a new waste management policy.
27. This could lead to not only an improved solution for the environment via reduced waste and vehicle movements, but also deliver a further **2% to 5%** cashable saving that could be re-invested in the highway network.

Quality Improvements

28. In addition to cashable savings, the five year programme will also deliver the following non-cashable savings:

	Existing Process	Problem	Future Process
Improved Programme Management	Surrey Highways schemes delivered in order of prioritisation, with scheme delivered in descending order of priority until annual budget is reached.	Scheme is planned one month before delivery, with little time for effective planning. Consequently programme is rarely adhered to, with works requiring constant updates.	Enabling all schemes to be delivered as part of single five year Investment Plan, enable all works to be published 12 months in advance and allow at least three months effective planning for each scheme
Improved Communication Plan	Schemes are published one month in advance of delivery	There is no strategic communication plan. Residents are not aware of "investment plan" for their area and there is no effective notice period	Implement new Strategic Communications Plan for all major resurfacing – see Annex One for draft plan

Supporting Local Employment	Schemes are ordered and committed individually	Local highway companies have no opportunity to plan or manage cash flow	5Y programme enables Specialists to establish better material sourcing and place their plant and vehicle on longer term leasing arrangements. Allow companies to not only protect existing Surrey workforce but enable them to grow and bid for new work
Apprentices	Schemes are ordered and committed individually	Lack of security prevents firms investing in employee training and apprentices.	As part of five year plan an additional 12 apprentices will be employed as part of highway supply chain.

Impact on Asset Prioritisation Policy

29. The implementation of a new five year investment programme will have impact on the existing policy for how highways schemes are prioritised for work.
30. In particular, Members will no longer have the ability to nominate three schemes each year, with all schemes pre-agreed in 2012. To mitigate the impact of the change in policy, officers have delivered the following actions:
- I. **Member Task Group** – officers have worked with Member Task Group to ensure new Asset Prioritisation Policy is fit for purpose
 - II. **Increased Local Funding** – officers are working with the Cabinet and Corporate Leadership Team to explore how additional funding could be transferred to local committees to support local prioritisation. In 2012/13 this resulted in an additional one off £2m increase in local committee allocation
 - III. **Fit for Purpose Programme** – Officers have undertaken one of the largest consultation exercises in the country to ensure the five year investment programme, meets both the needs of both the asset and the local community. This has involved a significant dialogue with residents, local committees and key stakeholders. See **Annex B** for full details of how the investment programme has been developed and planned for delivery over five year period.
31. The five year programme will also be reviewed annually to ensure it is reflective of any major changes in carriageway condition, for example, as a result of severe weather. Any changes to programme will be fully communicated to local members.

CONCLUSION & SUMMARY

32. Surrey County Highway network is below the national average for road condition, with a 13 year backlog of major structure repairs.
33. To take proactive steps to resolve the situation. Project Horizon was launched with the specific aim of using existing funds to replace a minimum of 10% (480 km) of road within five year period and enable the structural backlog to be removed within 8 year period.
34. Project Horizon will report to Cabinet in February with recommendation on:
- Adopting a Five Year Investment Programme
 - Implementing new innovative materials& road design process
 - Adopting new vehicle relocation policy & improved on-site procedures
 - Developing a new regional waste management plan
35. The adoption of the recommendations will deliver opportunity to release cashable savings which can be re-invested in network and deliver increased number of schemes. The savings are represented as discounts against existing contract rates, with a minimum and maximum savings depending on how well the savings are exploited.

Saving Area	Minimum Discount	Stretch Discount
Guaranteed Five Year programme	11.00%	12.0%
Improved Road Design	1.0%	4.0%
Vehicle Relocation Policy	1.0%	2.0%
Improved Waste Management	2.0%	5.0%
Total	15.00%	23.00%
Estimated Savings (based upon existing budget)	£14m	£21m

36. The Highway Road Map will fundamentally change the balance in how Surrey Highways maintain the county's network. It will transform from providing a reactive fire fighting service to delivering a strategically planned investment plan, with improved communications and planning.
37. Over a five year period the Investment Plan will enable the authority to replace nearly 500km of road network and the majority of the worst roads in Surrey

WHAT HAPPENS NEXT

38. Recommendation to adopt new Five Year Investment Plan (Operation Horizon) submitted for approval to Cabinet in February 2013.

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Annexes:

Annex One: Investment Plan Communication Plan
Annex Two: Programme Consultation & Development

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