Communities Overview and Scrutiny Committee

8 February 2023

Transport Schemes – Monitoring and Evaluation

Recommendation(s)
Note the proposed future approach to transport scheme monitoring and evaluation.

1.0 Background

1.1 Communities Overview and Scrutiny Committee has asked for a report to understand the County's approach to the monitoring and evaluation of Transport Schemes.

2.0 Current Monitoring

2.1 Historically the monitoring and evaluation of transport schemes has been variable and was largely dependent upon the source and scale of funding. Decisions regarding monitoring were therefore taken based on the effectiveness and cost benefit of doing an evaluation and having the necessary resources and capacity in house to do so.

2.2 Therefore we have taken a 'tailored' approach to ensure that monitoring was viable and reflected the scale and our ability to gather the monitoring information in an effective manner.

2.3. Where information /data is readily available to us and easy to access we have been able to undertake monitoring with little need for significant expenditure. A good example of this is our Casualty Reduction Scheme Programme. We can access collision data across the County and it is therefore efficient for us to use this to assess the effectiveness of any interventions that we provide.

2.4 The table below is an example of some of the current casualty reduction schemes currently being monitored through our safety engineering team. We are able to use this data to ensure the scheme is achieving it's desired outcome and then put a savings value, rate of return, to the intervention. We are also able to use the monitoring to better inform us of the effectiveness of different types of measures at different locations to build our knowledge base for future schemes.

Scheme Location	Estimated Scheme	Scheme Description	Road layout	Envinronment	Predominant Collision Type prior to treatment	Date- From Sign off of Stage 3	Total no of collisions within five year study period prior to comissioning	Collision Rate	Taken	PICs following scheme installation date				
										Year 1	Year 2	Year 3	Year 4	Year 5
Coleshill, B4114, Blythe Bridge	£77,100	Signage and Lining- including VAS	Corner	Rural	Loss of Control	8/3/2021	7	1.4	2.03	0	0			
A428 Lawford Road, Rugby	£3,008	Signage and Lining- including VAS	T-Junction	Urban	Failure to Give Way	11/16/2021	6	1.2	17.15	0				
Queensway/Kingsway Junction	£115,000	Roundabout	Crossroads	Urban	Failure to Give Way	9/4/2021	7	1.4	3.8	0	0			
A428/Lawford Heath Road	£31,000	Junction Warning Signs and Road Markings	Crossroads	Rural	Turning Movements	11/23/2021	6	1.2	2.03	0				
Bromsgrove Road, Studley	£28,000	Warning Signs and Kerbing Alterations	Crossroads	Rural	Failure to Give Way	3/30/2021	6	1.2	25.12	0				
A422 Banbury Road, Tysoe	£28,000	Warning Signs, Road Markings & VAS	Crossroads	Rural	Failure to Give Way	3/20/2021	4	0.8	30.6	0				
A3400/Langley Road, Bearley	£9,000	Warning Signs and Road Markings	Crossroads	Rural	Failure to Give Way	3/24/2021	5	1	42.8	0				

2.5 For larger capital projects monitoring has historically been expensive, largely driven by a collection methodology which largely relied on the employment of large teams to collect data. Therefore, detailed monitoring has been focussed on those schemes where the funding provider, e.g. DfT, requires monitoring based on the business case submission.

3.0 Developments in Monitoring

3.1 In recognition of these challenges and, with the advancement in and the affordability of technology, we are now able to take a more consistent and robust approach to monitoring.

3.2 In 2020 £2m was secured through the County's Capital Investment Fund to expand our in-house monitoring and evaluation capability and capacity. This funding is enabling us to expand our baseline permanent monitoring sites across the county. Additionally, it has enabled us to establish our own mobile traffic survey capability, previously delivered by Leicestershire County Council through a SLA. Not only will this help support our own monitoring requirements it will enable us to market these services to generate revenue to reinvest back into the service. this also helps to secure revenue to keep the service going.

3.3. Some of the early deliverables of this new monitoring capability was our approach to evaluating the impact of the social distancing measures that were implemented in several Warwickshire towns during the Covid lockdowns. The use of AI equipment enabled us to better understand the impacts of the measures implemented and to monitor social distancing and town centre footfall.

3.4 The tables below show outputs of the monitoring of The Parade closure as part of the Covid response.

September 2020

Sensor 18 – Warwick Street

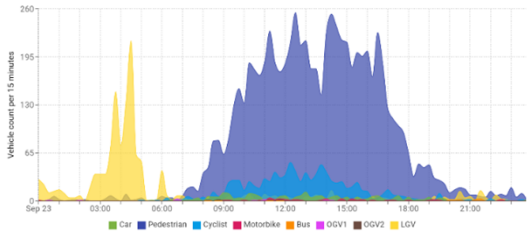
Data

Wednesday, 23/09/2020

Peak

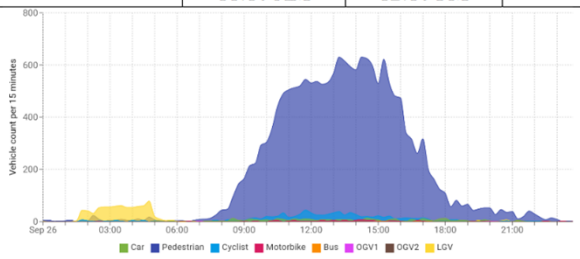
Class	Peak Hour		Count
	From	To	
Pedestrian	2:40 PM	3:40 PM	885
Cycle	1:40 PM	2:40 PM	183
Car	11:55 AM	12:55 PM	33

Counts



Saturday, 26/09/2020

Class	Peak Hour		Count
	From	To	
Pedestrian	2:40 PM	3:40 PM	2463
Cycle	12:55 PM	1:55 PM	139
Car	11:10 AM	12:10 PM	36



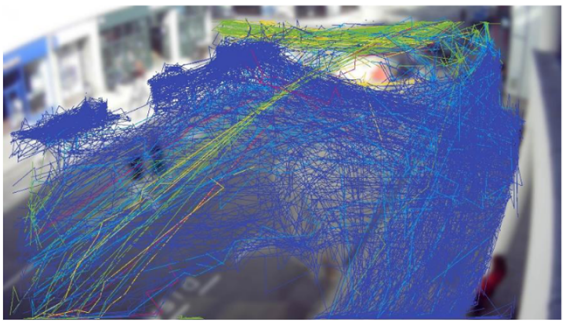
Additionally, we were able to trace pedestrian movements across the entire space.

September 2020

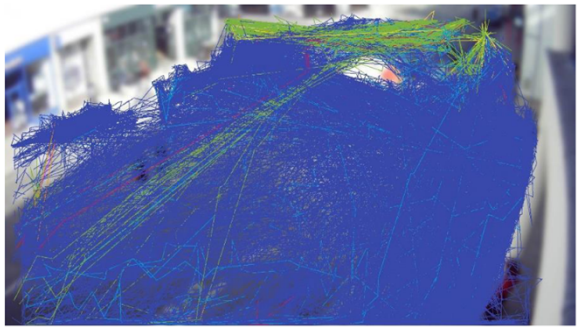
Data

Wednesday, 23/09/2020

Traces



Saturday, 26/09/2020



Sensor 19 – Warwick Street/Parade

Data

Wednesday, 23/09/2020

Peak

Class	Peak Hour		Count
	From	To	
Pedestrian	10:50 AM	11:50 AM	895
Cycle	12:55 PM	1:55 PM	43
Car	8:50 PM	9:50 PM	17

Saturday, 26/09/2020

Class	Peak Hour		Count
	From	To	
Pedestrian	12:55 PM	1:55 PM	3100
Cycle	11:50 AM	12:50 PM	140
Car	7:55 PM	8:55 PM	51

This capability will provide useful information when considering future changes to the highway network in our town centres.

3.5 Monitoring of transport infrastructure schemes with our new capabilities has not been possible due to the impact of covid on traffic levels. However, it is our intention to commence the monitoring of Stanks and Coton Island schemes in April 2023.

3.6 It is proposed that going forward, all infrastructure projects will follow a common approach, utilising a new Monitoring and Evaluation Plan, with

reference to the Monitoring and Evaluation Framework for Local Major Schemes (DfT, September 2012) and other best practice guidance, tailored to the scale of the project. A template has already been developed for these purposes and Monitoring and Evaluation Plans and/or funding has been set aside from capital scheme budgets for undertaking monitoring requirements.

5.2 Each capital funded scheme will be assessed in terms of the following measures:

- Scheme build;
- Delivered scheme; (to include as built drawings)
- Costs; (final outturn cost versus budget)
- Scheme objectives; (meeting objectives – i.e. address a road safety issue, reduce a queue length, deliver a sustainable travel scheme/enable mode shift)
- Travel demand; (traffic flows change as result of scheme)
- Travel times and the reliability of travel times; (any journey time improvements as a result of scheme?)
- Impacts on the economy; (if the Economic Case for funding the scheme was predicated on enabling specific growth – e.g. a housing site or employment site, has the site got permission, being delivered? etc)
- Carbon Impacts: If AQ monitoring equipment is in place then we would revert to using onsite measurements (usually only applicable to AQMAs), otherwise carbon impacts could be calculated through demand and journey time information)

Developer funded S278 schemes will be assessed in terms of

- Scheme objectives;
- Travel demand
- Travel times and the reliability of travel times (if applicable);

In accordance with the DfT Monitoring and Evaluation Framework, WCC propose to undertake monitoring 1 year and 5 years post completion of the scheme. Whilst most schemes will already have associated baseline data upon which the project assessments will have been developed, it is recommended that a complete data set to compare against the 1 year after and 5 year after monitor requirements is collected. The easiest way to monitor these 3 periods, and to ensure we have continuous data upon which to assess schemes and feed into other transport related projects, is to install semi-permanent monitoring infrastructure. These devices can be relocated should the scheme layout require.

Most of the requirements in terms of traffic related data will be addressed through us of radar devices. These devices can count traffic, measure speed and journey time and classify modes of travel (including sustainable modes). Any other remaining transport related surveys required to inform the report would be developed on a bespoke basis.

6.0 Financial Implications

6.1 Funding of the monitoring and evaluation programme should be included within wider scheme costs and so would naturally form part of any bid for funding

7.0 Environmental Implications

7.1 This approach to monitoring will also enable us to monitor the carbon impacts of our transport schemes and help us better understand the forecasted impacts and those achieved post completion

8.0 Timescales associated with the decision and next steps

8.1 It is proposed that this new approach to monitoring and evaluation will commence in April 2023.

Background papers
1. Monitoring Detail

	Name	**Contact Information**
Report Author	Philippa Young	philippayoung@warwickshire.gov.uk
Assistant Director	David Ayton-Hill	Davidayton-hill@warwickshire.gov.uk
Strategic Director	Mark Ryder	markryder@warwickshire.gov.uk
Portfolio Holder	Wallace Redford	Wallaceredford@warwickshire.gov.uk

Background Paper

Monitoring Detail

1.1 Scheme Build

The scheme build assessment will evaluate;

- Adherence to the project programme, whether the scheme development met key milestones and was completed on time. Where deviation from the programme occurred, explanation and consideration of the lesson learnt will be provided;
- Management of stakeholder engagement and lessons learnt;
- Assessment of the risk management approach adopted and lessons learnt; and
- Whether the scheme is on track to deliver the anticipated benefits and details of benefits realised (this will be covered by the assessment of scheme objectives, travel demand, travel times and economic benefits highlighted in the following sections).

1.2 Delivered Scheme

Delivered scheme assessment will include;

- A full description of implemented scheme outputs; including a clear map of the “as built” overall scheme; and
- Identification of any changes to the scheme since funding approval. For example, changes to route and/or design of the scheme and details of the reasons for any such changes.

1.3 Outturn Costs

Scheme costs assessment will include;

- Outturn investment costs broken down into elements; and
- Identification of cost elements with savings or overruns and identification of the reasons for these changes;

1.4 Scheme Objectives

The scheme will be assessed according to the objectives which the scheme is intended to deliver;

These may include, but are not limited to:

- Provision of sustainable travel facilities
- Addressing road safety
- Improving capacity
- Economic regeneration/activity
- Carbon and air quality improvements

1.5 Impact of Scheme on Travel Demands

Scheme travel demand assessments will consider the following;

- Change in traffic flow at key points on the route/at junction(s);
- Changes in cycle usage, pedestrian flows, bus patronage and car sharing.

The evaluation will include key surveys using permanent/semi-permanent monitoring infrastructure or bespoke surveys will be repeated at regular intervals. Automatic Traffic Count (ATC) loop sites will be included as part of the scheme.

1.6 Travel Times and Reliability

Journey times will be assessed dependent upon scheme objectives.

- Use of ANPR data to be considered to provide long term monitoring of journey times on routes/through junction/scheme proposed. This approach would also complement wider County ANPR capability.
- Where specific ANPR monitoring is not feasible, use of congestion data sourced from INrix, Traffic Master or TomTom may be appropriate
- The assessment will consider variability of travel times on corridors, including analysis of the difference between outturn results and scheme forecasts.

1.7 Impacts on the Economy

In addition to the above assessment of travel times and related improvements to business accessibility, analysis of the following will be included;

- If funding is identified to enable employment opportunities – KPI would be Increase in jobs against the forecast job realisation or planning permissions;
- If funding is identified to enable housing sites – KPI would be dwellings completed or permissions granted
- Details of any planning applications in the pipeline; and

1.8 Carbon Impacts

The effect of the scheme on carbon for the base and do something scenarios will be modelled based on demand/vehicle speed information and analysis of the difference between outturn results and scheme forecasts will be presented.

This assessment will be included in the “1 year after report” and the “the final report”. The monitoring requirement would be assessed by the Transport Monitoring and Modelling team in Transport Planning.

1.9 Assessment of Value for Money

In accordance with DfT guidance for standard evaluation, the standard monitoring will be analysed in detail, with conclusions drawn in the reporting about the implications of the findings on the Value for Money of the scheme. This will include a qualitative assessment of whether the assumptions used in the business case development remain valid i.e. a comparison of the forecast the costs of delivering the scheme and forecast benefits to be accrued as a result of delivering the scheme against the actual costs and actual realised benefits post scheme implementation.

This assessment will be included in the “1 year after report” and the “the final report”.