Meaningful Monitoring: Providing the Path to Positive Change

Guidance Document

March 2021



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Weezy

Ever been overtaken by your own groceries?



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Except local buses

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This guidance document was developed by Cross River Partnership (CRP) as part of it's Healthy Streets Everyday project, a Mayor of London Air Quality Fund initiative to empower boroughs, businesses and communities across London to deliver pedestrian priority healthy streets. CRP would like to recognise and thank the Mayor of London, as the funder for this guidance document.



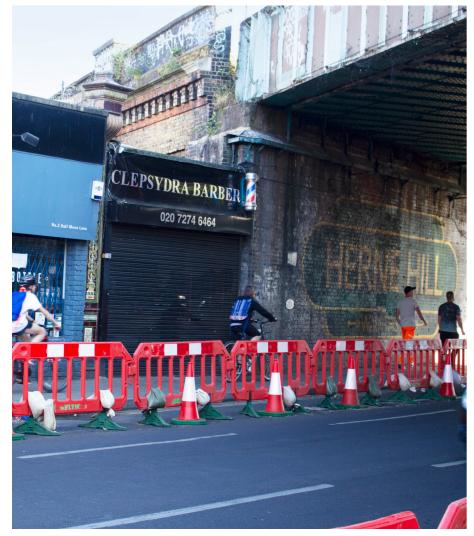
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A Vivacity sensor installed as part of CRP's monitoring programme.

O1 Introduction

Over the last year London (and the UK) has seen the accelerated introduction of ambitions and experimental streetscape improvements to create more space for walking and cycling and to ensure adequate physical distancing measures can be maintained throughout the COVID-19 pandemic.



Temporary wider pavements installed as part of TfL's <u>Streetspace for London</u> programme in Herne Hill, London Borough of Lambeth

Temporary measures to encourage active travel, such as pop-up cycle lanes, pavement widening and Low Traffic Neighbourhoods (LTN's) have been implemented quickly with limited or informal consultation processes. As a result, monitoring the impact of the changes has become critical. Data and evidence drawn from monitoring programmes can be used to highlight benefits, such as air quality or footfall improvements, and allay concerns or fears of local residents and businesses. Similarly, monitoring can provide the proof of concept for initiatives, helping to enable long-term and sustainable transitions to permanent change and encourage a green recovery as we evolve out of the COVID-19 pandemic.

This report aims to support Local Authorities, Business Improvement Districts (BIDs), Landowners and Policy Makers with the implementation of successful monitoring schemes by providing best practice guidance that builds on the knowledge and insights gained from CRP's own monitoring programme and data analysis expertise.

O2 Monitoring for Healthy Streets

The Healthy Streets Approach is a global policy framework that puts people and their health at the heart of decision-making for streets. It has been an integral part of the Mayor's Transport Strategy, with healthy streets demonstrated by 10 key indicators (see image below). CRP's Healthy Streets Everyday Programme is a Mayor of London Air Quality funded project to empower boroughs, businesses and communities across London to deliver pedestrianpriority healthy streets, increase walking and cycling rates and reduce emissions and exposure to toxic air.

Many of the streetscape initiativesThis report buimplemented over the past year havesupporting thebeen done so to enable our streetsof successful rto become "healthier", encouragingthrough knowwalking and cycling, and reducing thebest practice oflikelihood of COVID-19 transmissionfrom both CRIby spending more time outdoors. AsProgramme, apart of CRP's Healthy Streets Everydayand guidance.Programme, we have been workingwith partners to deliver a wide rangeof initiatives, including:

This report builds on this initiative, supporting the implementation of successful monitoring schemes through knowledge sharing and best practice examples gained from both CRP's Vivacity Monitoring Programme, and wider research and guidance.

- Parklets
- School Streets
- Low emission delivery services
- Car free events
- Footway widening
- Cycle parking
- Greening measures

However, ensuring that these initiatives are being delivered successfully is essential to ensure positive change; the importance of monitoring in creating healthy streets cannot be underestimated. CRP's Vivacity Monitoring Programme supports our partners to provide evidence and a proof of concept for existing or planned interventions, such as those listed above, and to identify where additional measures may be required.





Case Study

Monitoring Tools for Healthy Streets

A number of tools have already been developed to help us understand how healthy our streets are, and to assess a scheme in terms of the 10 Healthy Streets Indicators. These are summarised below:



The Healthy Streets Check for Designers

Is a quantitative desktop tool that can be used to assess proposed street designs against the 10 Healthy Streets Indicators. The tool provides a score out of 100, helping to quantify how well a street performs against the Healthy Streets Indicators and helping to show stakeholders how a proposed change to the street may deliver improvements against the Healthy Streets Indicators.

The Guide to the Healthy **Streets Indicators**

Is a qualitative assessment tool that can be used by communities, project leads and policy makers. The tool helps to assess how a street performs against the 10 Healthy Streets Indicators and identify what changes would deliver the widest benefits. To do this it uses a series of questions to highlight the many factors that influence the "healthiness" of a street.

The Healthy Street Surveys

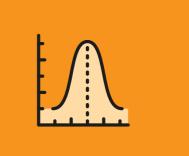
These have been designed to collect Londoner's 'real life' perceptions of existing streets. The on-street face-to-face surveys ask the public to rate the street they are standing on against each of the 10 Healthy Streets Indicators and can be used as part of monitoring the impact of a project and to show differences in Londoner's experiences of different kinds of streets.

The Healthy Streets Index

Is an "expert-designed spatial dataset that scores every street in relation to the Healthy Streets Indicators using a composite of key city-wide datasets."1 This helps local authorities to provide a base-level score to their streets and to explore areas that may need greater interventions.







Monitoring

Monitoring can be defined as "the formal reporting and evidencing that spend and outputs are successfully delivered, milestones met and changes in outcomes tracked over time".² Monitoring enables local authorities and its' officers to check progress against planned targets and feed into evaluation. This plays a critical part in effective decision-support as it can also be used to communicate with a range of stakeholders within local government, across policy areas, with politicians and the general public.³

Evaluation

Evaluation "is the assessment of the effectiveness and efficiency of the initiative during and after implementation."⁴ It seeks to measure and attribute outcomes and impacts generated by the initiative in order to assess whether the anticipated benefits have been realised and whether any unanticipated impacts have occurred.⁵ "Evaluation can offer robust quantitative and qualitative data on the outcomes and impacts of a policy, programme, package or scheme: providing evidence not only for what changes it produced but also why and how these changes came about. Sound evidence has. in turn, a crucial role to play to improve the evidence base for future policy making."6

"Active travel simply means making journeys by physically active means - like walking, cycling, or scooting."



Active Travel

"Active travel simply means making journeys by physically active means - like walking, cycling, or scooting."7 Encouraging more people to walk, cycle, scoot or wheel has become a central component of the Mayor of London's transport strategy, with the aim to increase the proportion of Londoners who travel actively so that, by 2041, all Londoners will achieve the minimum requirement of 20 minutes of active travel each day that is needed to stay healthy.⁸

Why Monitoring Matters

after a scheme is implemented.

For example, if monitoring the

the scheme introduction may

encouraging cycling in the area.

Monitoring also helps to identify

challenges that may be hindering the

use of a certain space or a particular

mode of transport; taking the example

of the cycle lane, the number of cars,

lorries, vans or buses may impact

cyclist counts by making the road

more dangerous and therefore less

appealing to cycle on. The evidence

therefore help to explore possibilities

such as the introduction of segregated

cycle lanes, with continued monitoring

then providing the evidence if this is

obtained from traffic counts could

to make the road safer for cyclists.

introduction of a cycle lane, one key

indicator would be cyclist numbers;

increasing cyclist counts following

indicate success in introducing and

Evidence, Accountability and Proof of Concept

Monitoring and evaluation can sometimes seem like "an unaffordable luxury and an administrative burden."9 However, monitoring provides the evidence that a scheme is working as intended (or in some cases not), acting as a proof of concept and a source for change. Monitoring also has a critical role to play in demonstrating the effectiveness of a streetscape initiative and helps to explore whether the outcomes that were achieved were as expected.

Monitoring provides the data for indicators that can help determine if a scheme is working, e.g. cycling counts along a main road, or air quality measurements. This data can then be interpreted and evaluated to explore accountable reasons as to why changes in the selected indicators may have occurred before, during, and/or

Case Study

Traffic Calming Measures on New Park Road, Brixton

In 2016, collision rates on New Park Road in Brixton had been 40% higher than on other similar roads due to drivers using it as a rat run. Several pedestrians had been involved in collisions, including pupils at the local **Richard Atkins School.**

the case.



New Park Road, Brixton. image source

The London Borough of Lambeth combated this with a pilot of a new road layout, using low cost materials (such as hay bales) as temporary measures to slow down and reduce the number of vehicles. Local emergency fire services demonstrated access to the street was not significantly impacted by the new road layout, and families used a trial day to create their own pop-up parks

and on-street concerts. Throughout the temporary changes, the council monitored vehicle speeds and counts, and this data was used to transition to a new permanent road lavout that didn't impact traffic on other streets. This data helped the councillors and borough to give support for a permanent scheme, which was completed in December 2016.11

Demonstrating accountability reflects a more traditional performance monitoring approach, as the evidence produced from monitoring can draw direct links as to whether a scheme is working or not working.¹⁰

Monitoring generates accountability by:

- Generating evidence to assess the impact of an intervention or scheme
- Identify problems with current streets and space
- Enabling interpretations . and evaluations of the data to attribute to existing or planned changes

Why Monitoring Matters

Case Study

Collaboration, Transparency and Evidencebased decision making through Open Data with Cycling Scotland

Cycling Scotland have created an online open data-sharing platform for cycling, walking, and wheeling called Active Travel **Open Data (ATOD)**

All data on ATOD is open-access and freely available for anyone to download, but users are also able to create an account and add additional data onto the website. This supports Cycling Scotland's vision that it will function as "an online 'one-stop-shop' for everyday cycling and active travel data in Scotland, providing easy access to open data, facilitating collaboration and partnership working, and

promoting transparency and evidence-based decision making."13 The types of data that can be downloaded include:

- Count data across Scotland and in specific Scottish cities
- cycling changes
- training

Monitoring creates knowledge, which can:

- Inform the success of future schemes and be paired with wider or historical datasets
- Support the transition to permanent schemes
- Build trust and confidence •
- . Create an open conversation about the data and scheme

Trust, Informing Future Schemes and Transitioning to Permanent Change

Monitoring data (and the resulting interpretations) can be used to produce knowledge and contribute to the success of schemes in the future. The introduction of temporary and/ or new schemes needs prior and continuous monitoring activity to understand associated changes. This could be supplemented with existing monitoring and evaluation activities within a local authority, or at the city level, including comparing with wider city-level datasets.12

For example, if the goal of increasing walking and cycling numbers associated with an intervention is achieved, there may be elements of learning that may improve an existing or upcoming intervention or scheme. The continuous desire to learn from the outcomes of monitoring, whether



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YouGov polling of COVID and

Schools delivering Bikeability



successful or not, will continue the drive for evidence-based decision-making.

Additionally, data (e.g. traffic count changes) is a brilliant resource to draw upon if a temporary scheme was to be made permanent. Communicating any changes in an open, transparent and evidence-based way helps to build trust and confidence with the general public, Similarly, transparent and open data sources create an open conversation about data. Data that can be easily accessed and downloaded, like Cycling Scotland's ATOD or the Greater London Authority's open data hub, allows any user to investigate, understand and work with the data, which can help to build trust in the data collection and analysis process. As a result, knowledge creation, trust and communicating evidencebased decision-making are critical components of the importance of monitoring.

05 What makes a good monitoring programme?

Careful thought and consideration is required to create and undertake an effective and purposeful monitoring programme and there are plenty of resources that will provide an in-depth guide to devise and support monitoring projects and strategies. Crucially, an effective active travel/streetscape monitoring programme should be linked to transport, air quality and corporate strategies. Below is our list of the key criteria to create a meaningful monitoring programme in this field.



Defining the Aims and Objectives Effective monitoring programmes have clear research questions and a strong rationale. By setting out clear research aims and objectives for the monitoring programme, evaluation assessments may be easier to undertake, particularly with a clear baseline of evidence. It is important before beginning any monitoring or evaluation programme to create a clear understanding of what success looks like and this will also create focussed research questions. Ultimately a question of "what outcomes does this monitoring want to achieve" should be at the heart of the programme.

> Have you decided on your aims and objectives?

Do your aims and objectives clearly link to your overall strategy?

There should be an understanding of

your pathway to change, and how your

aims and objectives may be impacted

by external factors and assumptions

(you can find more information on

pathway to change and change

Monitoring and evaluation plays

performance management cycles

defining and setting clear rationale

and objectives for monitoring and

a crucial role in the policy and

and stresses the importance of

assumptions here).

evaluation.14 15

Data Collection

Once you have decided on your aims and objectives at the start of the monitoring programme, you need to work on your outputs. Critical questions for your data collection are:

- What exactly to monitor
- What data to collect
- What indicators to use

These questions will be dependent on the time and resources allocated to the monitoring activity, and what technology may be available to collect the data.

Additionally, open or secondary source data could be used for analysis; data collection may be completed through external datasets, but there will be pros and cons to each method of data collection chosen. There may also need to be a prioritisation of what to measure based on the aims and objectives set at the start of the project, and how your outcomes are ranked will be crucial in this. A useful guide on understanding what data to collect can be found here.

Analysing outputs

Information is only useful if it is analysed and put to good use. A key purpose of monitoring is to support internal decision making and planning, so you need to ensure you periodically analyse, assess, and actually use the information you collect.¹⁶

Data cleansing (or cleaning) is a critical part of the data process, to ensure that the formatting and accuracy of the data is correct before analysing.¹⁷ It is important to be impartial and continually question any outputs, such as statistics, graphs, charts and conclusions, drawn from a monitoring dataset to ensure that the process is credible, valid and reliable. Ensuring multiple people check the credibility of the data with an impartial mindset is critical.

Consider the relevance of the statistics that are being produced and how it relates to your original aims and objectives. Some statistics and qualitative data may be useful for internal learning on a scheme's success, whilst others may be more of a priority for external communications.

Generate simple totals, averages and percentages that are easily displayed on simple graphs and charts, and always watch out for unexpected results. There is always a chance to add more detail, depth and statistical analysis to the data once it has been organised and descriptive statistics (descriptive statistics are used to describe the basic features of the data in a study¹⁸) and simple charts have been produced. Ensure that all limitations and risks of the data collection and analysis process are understood and communicated throughout.^{19 20}

You will likely need information to:

- Understand the reasons for change and interpret the changes
- Quantitative information to understand the data's general trends



Communicating your results (effectively)

Many Streetspace initiatives have been experimental, meaning consultation periods often run alongside the trial schemes concurrently. Consultation periods and trial schemes should be used as an opportunity to work with the community and communicate impactful and meaningful data to justify decision-making and demonstrate how things may have changed. This should be to all audiences, across a variety of platforms, to gather feedback and understand barriers to the implementation of existing or upcoming schemes.

Data that demonstrates both the existing baseline issue, and in the case of a scheme that has been implemented, data showing the changes that a scheme has brought, can be an excellent tool to build trust and confidence in a local authorities' scheme, and also build an open **conversation.** This can feed into the next monitoring cycle, with new or existing aims and objectives. These are critical reasons to undertake monitoring in the first place, and why the community will find this information so valuable.

Data showing the changes that a scheme has brought, can be an excellent tool to build trust and confidence in a local authorities' scheme, and also build an open conversation.

Monitoring is an excellent tool, but the importance of communication is vital. CRP's previous "Mobility Justice <u>& Transport Inclusivity"</u> guidance document sheds some light on the challenges that disabled people have with regards to consultation, and it is imperative that all residents and businesses (particularly those that are more vulnerable) should be consulted and engaged with to understand potential impacts.

Have you communicated findings to all audiences and on a variety of platforms?

Have you related the communication to the original aims and objectives of the project?

2020: A year of change

2020 was a defining year for the changing nature of London's streets as local and city-level authorities continued to be ambitious and experimental in their approach to delivering changes to the capital's streets. By October 2020, 26% of the strategic cycle network has been delivered (362km out of approximately 1,400km) and the Streetspace for London programme, brought in to combat the impacts of the coronavirus pandemic in 2020, has been responsible for much of the recent increase that has been delivered.²¹ Nevertheless. whilst these plans have been bold, they have also brought some controversy for residents and businesses, particularly the introduction of Low Traffic Neighbourhoods.

Have you related the communication to the original aims and objectives of the project?

Challenges

Local Authorities, BIDs and Landowners have become increasingly resource and time constrained. Monitoring can be a resource intensive task that can take up significant cost and time. This reinforces the need for clear decision-making on what to monitor and the need for a clear and thought out monitoring strategy.²² Nevertheless, making use of secondary source public datasets can mitigate some of these challenges and below is a short list of publicly available datasets that may be applicable for supporting monitoring and evaluation programmes on active travel, healthy street and streetscape interventions.

Resource	Summary
Healthy Streets Index	"The Healthy Streets every street in relation key city-wide datase
Tranquil Pavement	An interactive map t across London by Tr
National Travel Survey	"Statistics and data a survey to monitor tre for Transport."
Transport for London's cycling data	Transport for Londor location and dates.
Greater London Authority's Walking and cycling data by borough	Greater London Auth borough.
TfL's road safety data	TfL's interactive dash published collisions in
TfL's London collision map	TfL's road traffic colli severity and age grou personal injury and w
Cycling UK's statistics	Cycling UK statistics data, for the year 201
UK Government's Walking and Cycling Statistics	Statistics and data ab Survey and Active Liv
CycleStreets open source map	A comprehensive and throughout London, CycleStreets.



Index is an expert-designed spatial dataset that scores ion to the Healthy Streets Indicators using a composite of ets."

hat demonstrates areas of high and low noise pollution anquil City.

about the National Travel Survey, based on a household rends in personal travel, produced by the UK's Department

n's (TfL) open source cycling data, which can be filtered by

nority's walking and cycling data, which can be filtered by

hboard that lets you explore the locations and details of in London.

lision map, which can be filtered by year, road user, collision oup. The map shows traffic collisions that resulted in were reported to the police.

based on official government publications and their own 19 (most recent data for Cycling UK).

bout walking and cycling, based on the National Travel ves Survey, produced by the Department for Transport.

d attribute-rich dataset of all cycle infrastructure based on. January 2017 and May 2018, produced by

Monitoring in Practice – CRP's Vivacity Monitoring Programme

CRP's Vivacity Monitoring Programme involved working with partners from CRP's Clean Air Villages 3 and Healthy Streets **Everyday** programmes, helping them to understand the impacts of temporary streetscape interventions or identify areas where streetscape interventions could be implemented.

As part of the programme, CRP created 13 tailored reports detailing in-depth analysis associated with each of the 16 sensors. Additionally, project partners were able to access a real-time data dashboard to understand live trends and road user behaviour.

The programme's monitoring was undertaken using Vivacity sensors, that use artificial intelligence and machine learning technology to capture traffic counts across a selected "count line". There are 9 count classifications that can be detected by the sensor and these are highlighted in Figure 3. This data was then integrated with CRP's in-house MeasureBEST tool to calculate estimated emissions from Cars, Vans, Trucks and Articulates in the local area, providing even more insight and analysis.

The sensors also have the capability to analyse road user behaviour, helping to understand the relationship between motorised and non-motorised traffic. Pedestrian numbers and space can also be investigated to explore how streets can enable social distancing; the Vivacity cameras are also able to detect the number of interactions of less than 2m. This was also analysed in some cases as part of the programme. It should be made clear that all data collected was GDPR compliant and that data privacy has been ensured throughout the programme.

What did we monitor?

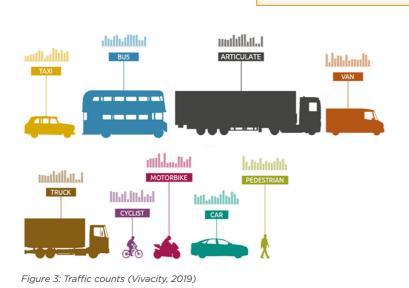
CRP's Vivacity monitoring programme helped our partners to monitor a wide range of interventions such as:

- School Streets
- Pop-up cycle lanes .
- Timed road closures .
- Local markets .
- . Pavement widening

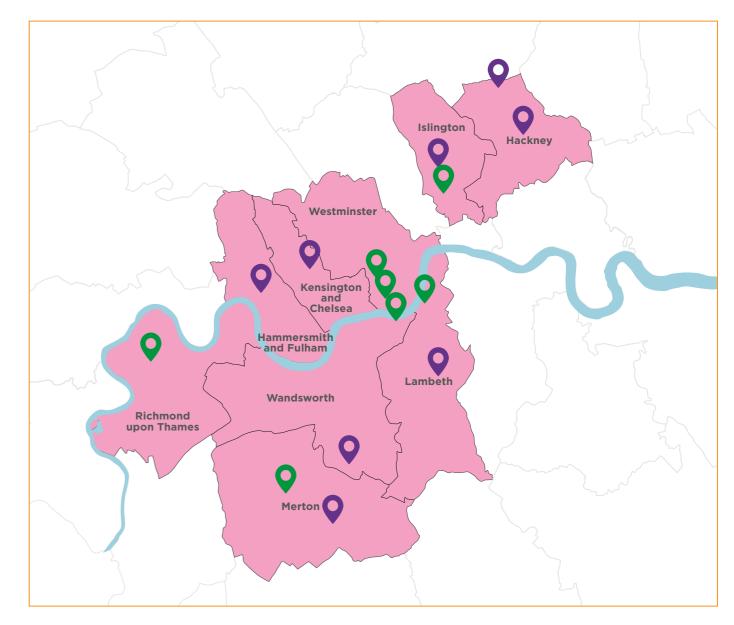
Why did we monitor?

The programme is used to support partners in their chosen local area to:

- Understand general traffic trends, over different time periods, and how motorised and non-motorised traffic changes during the day
- Understand the behaviour . of road users
- Explore where streetscape interventions could be useful
- Analyse the impact of existing streetscape or road layout changes on road users
- Understand the impact of COVID-19 restrictions on a local area



CRP Vivacity Monitoring Locations



Vivacity Monitoring Locations



Borough Partners

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OB CRP Vivacity Case Studies

The following section details several case studies that indicate the findings and analysis from CRP's monitoring programme. These aim to serve as an example, indicating how effective monitoring can be used to provide the evidence, proof of concept and other benefits described in the previous sections.

CRP Case Study 1

Proof of Concept - Soho's "al fresco" Dining

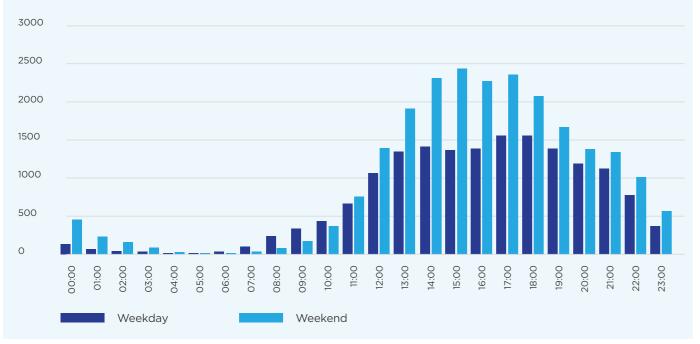
In summer 2020, some of Soho's streets were closed to vehicular traffic during certain times of the day to provide more space for hospitality businesses to trade, whilst also reducing the risk of transmission of coronavirus.^{23 24} This enabled outdoor "al fresco" dining as businesses could bring tables and chairs out onto the road space from 5pm – 11pm each night.



As part of CRP's monitoring programme, traffic count data was used to gather evidence of accountability for the scheme's introduction, helping to provide the proof of concept for the initiative and justify the re-introduction of al fresco dining in Soho during April to September 2021.²⁵ Motorised and non-motorised traffic counts were monitored from 27th August 2020 – 31st October 2020, and below we have presented hourly average counts of pedestrians and vehicles over the course of the monitoring period from one of the count lines. To provide even richer analysis, this has been split between weekend and weekdays to show how the space may be busier or quieter during these periods.

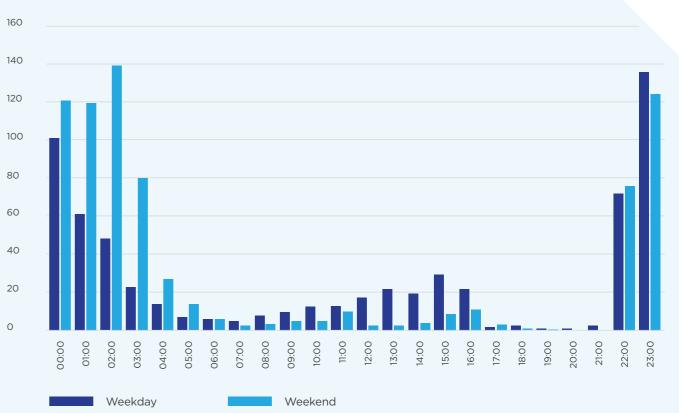
Old Compton Street, Soho, City of Westminster. <u>Image source</u>

Old Compton Street Weekday Vs Weekend Pedestrian Hourly Average Counts



CRP Case Studies

Old Compton Street Weekday Vs Weekend Cars Hourly Average Counts



The analysis clearly shows a complete drop in cars on weekends and weekdays from 5pm - 10pm and huge rises in pedestrians in the afternoon and evening. This reduction in vehicles clearly coincides with the closure of the street, and the surge in average car counts at 10pm could be due to private vehicles or taxis collecting some of the pedestrians who have been enjoying the hospitality venues. As a result, the data suggests that the "al fresco dining scheme" is likely to be accountable for the changes in motorised and non-motorised traffic counts, and that the scheme is working as intended, drawing people into the area.

Additionally, the data collected can help to understand further insights associated with the scheme. For example, the variations between a weekday and a weekend shows that the average number of pedestrians are greater during the weekend, with the highest numbers of pedestrian peaking slightly earlier in the day at 3pm on a weekend, compared to 5pm on a weekday.

Additionally, understanding the area's location and wider context is also important in terms of informing the analysis. For example, the graph shows that the average number of cars remain low from 5am -10pm, which could be due to the congestion charge and Ultra-Low Emission Zone, which comes into force daily from 7am - 10pm.²⁶ Being aware of the monitoring location in this context helps to provide more accurate analysis by ensuring that potential trends associated with other interventions are not mistaken as an unintended or unforeseen impact.





Car-free street in London Borough of Hackney

CRP Case Study 2

Evidence and Accountability -School Streets

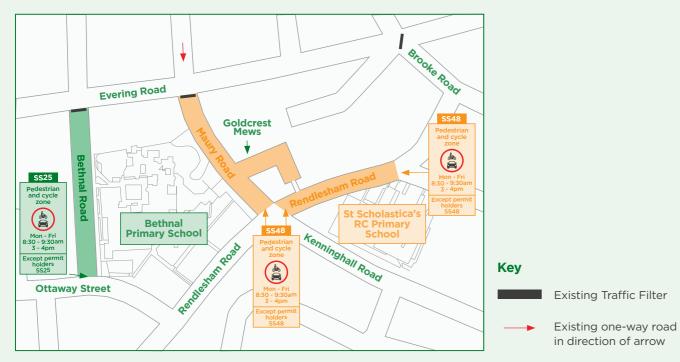
A School Street is a temporary traffic restriction placed on a road outside of a school that occurs during drop-off and pick-up times. The restriction applies to all vehicles (other than those with specific access requirements), reducing congestion and creating a safer, healthier and more pleasant environment and encouraging children and parents to walk, cycle and scoot to school.



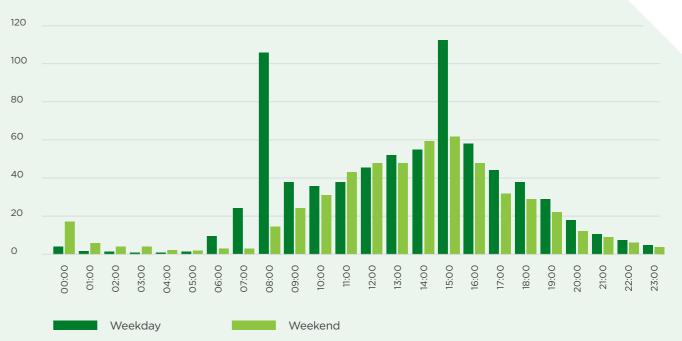
As part of CRP's Vivacity Programme, monitoring was undertaken to assess the impact of a school street for Saint Scholastica's Roman Catholic Primary School. The location and timings of the school street can be seen on the map below. Motorised and non-motorised traffic counts were monitored from 4th November 2020 - 31st December 2020, and the following graph provides hourly average pedestrian counts at this location.

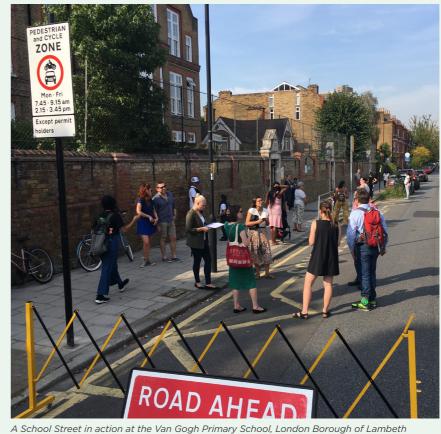
Image source

Saint Scholastica's Roman Catholic Primary School, Street SS48



Rendlesham Road Weekday Vs Weekend Pedestrian Hourly Average Count







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The analysis clearly shows two distinct peaks in weekday pedestrian numbers at 08:00 and 15:00, coinciding with the timings of the school street pedestrian and cvcle zones (08:30 - 09:30 and 15:00 - 16:00). Average pedestrian numbers peak at 105 at 08:00, and 111 at 15:00, which is significantly higher than the average number of pedestrians recorded on the street during any other hour of the day. There is also a clear difference in weekday and weekend counts with the peaks clearly not present during these times at the weekend. As a result, the monitoring has helped to provide evidence that the school street is being used successfully by encouraging children and parents to walk to school.

CRP Case Study 3

Challenges and Unexpected Impacts -COVID-19 Restrictions

In this example, daily pedestrian

12th October – 30th November 2020 in a location in London. During

a national lockdown.

counts have been monitored from

this period, London was placed in to

Tier 2 restrictions and there was also

The data clearly shows a distinct

national Lockdown and this needs

to be taken into consideration when

evaluating the monitoring aims and

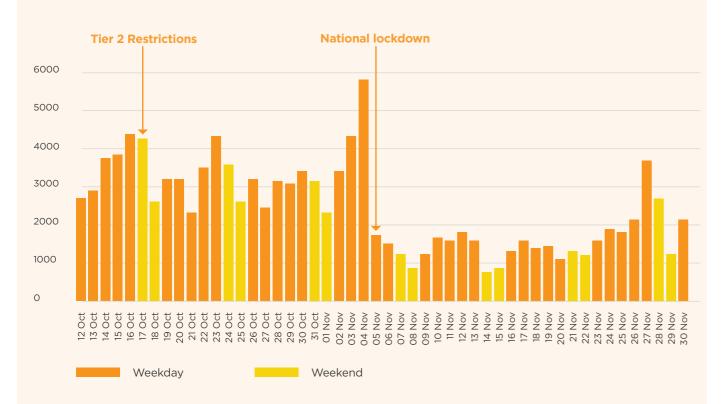
drop in pedestrian numbers following the introduction of the

objectives.

As discussed previously, monitoring can help to identify unexpected impacts that may be hindering the use of a certain space or mode of transport. The below graph shows how external factors, in this case the introduction of COVID-19 Government Restrictions can have impacts that aren't associated with a planned scheme itself.



City of Westminster. Image source



CRP Case Study 4

Challenges and Unexpected Impacts -Roadworks

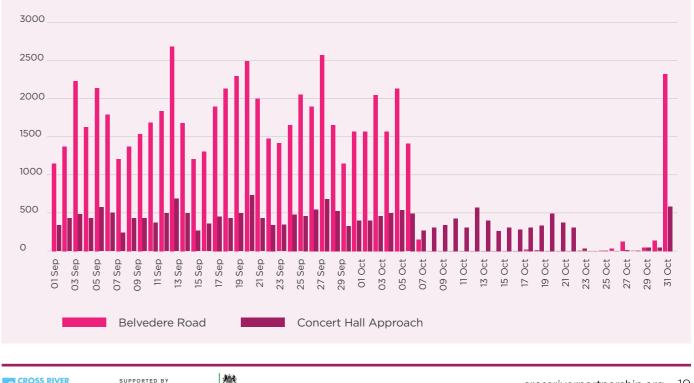


Image source

The below graph highlights how monitoring can help to identify challenges or unanticipated events. In the analysis below, there has been an impact on daily car counts with numbers dropping significantly on the 5th October. This was due to road works being introduced in the area, making the road unusable.

Daily Private Car Counts

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CRP Case Study 5

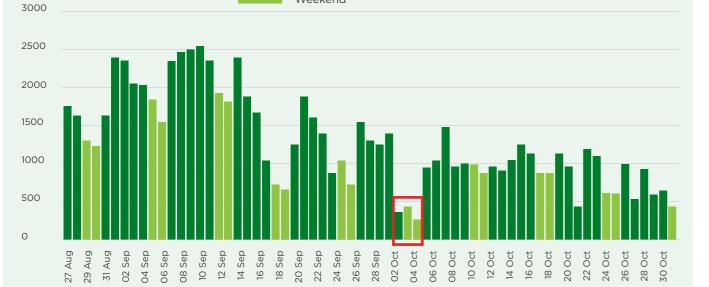
External Impacts - Cyclists and Weather

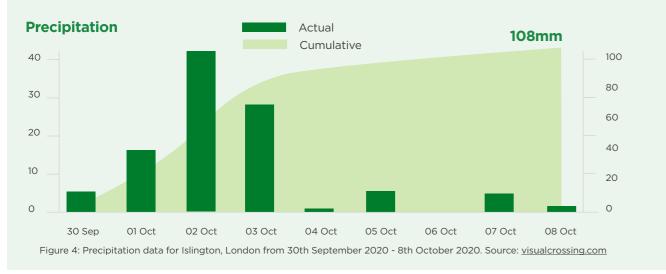
Understanding the location and wider context is important to inform the analysis. However, it is also important to question outliers within the dataset or any instances where the data is indicating abnormal trends.

The graph below indicates daily cyclist counts for the period between 27th August and 31st October 2020. In general, the number of cyclists passing through the measuring point has been broadly decreasing over the data period, even more so on weekdays compared to weekends. However, the data also shows that on the 2nd - 4th October, there was a large drop in cyclists that was more significant. On further inspection, this impact was attributed to the heavy rainfall recorded over this weekend, see graph below, acting as a deterrent to cyclists throughout this period. This was also reflected in the pedestrian and motorcycle count data. An increase in precipitation is likely to lead to a reduction in cyclists.²⁷



Weekday Weekend





CRP Case Study 6

In Depth Analysis - Estimating Emissions

As mentioned earlier, it is important to consider the relevance of the statistics that are being produced and how it relates to the monitoring aims and objectives.



Image source

Several of the schemes that were monitored as part of CRP's Vivacity Programme were aimed at encouraging active travel and improving air quality. In order to provide analysis that supported these aims, CRP was able to utilise its in-house MeasureBEST tool to calculate estimated emissions for NOx, CO2, PM10 and PM2.5 associated with three vehicle classes (Car, LGV and OGV). By providing partners with this in-depth analysis, we were able to provide an overview of local emissions within the vicinity of the sensors, helping our partners to understand the implications of a scheme in terms of both active travel and air quality targets.

CRP was able to utilise its in-house MeasureBEST tool to calculate estimated emissions.

D9 CRP's Data and Analysis Services

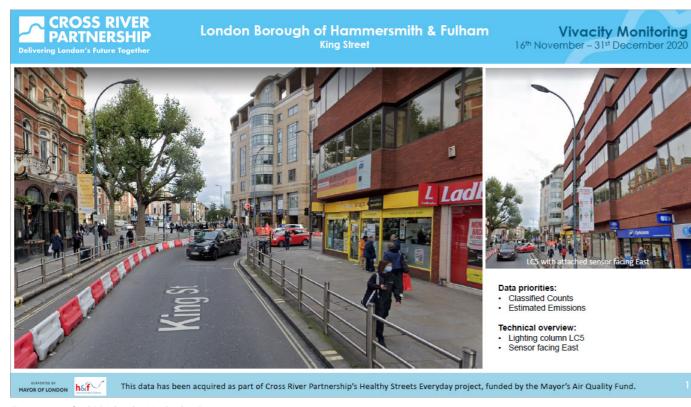
The case studies indicate how CRP's Vivacity Monitoring Programme was able to provide partners with rich data and analysis by exploring traffic count data, social distancing (where applicable) and the implications for local emissions.

However, this service is not just available to partners associated with our monitoring programme. CRP appreciates that many Local Authorities, Business Improvement districts and Landowners are currently facing resourcing and time pressures and as a result CRP can offer value for money data analysis services to help unlock the potential of data. By providing in-depth analysis that is tailored to your needs, CRP can help to provide the proof of concept for local initiatives whilst enabling evidence-based decision making for both you and your stakeholders.



Find out more

If you are interested in finding out more about CRP's data analysis services and how it can benefit your organisation, please get in touch with CRP Project Manager, Fiona Coull fionacoull@crossriverpartnership.org



Front cover of a CRP Vivacity Monitoring Programme report

Conclusion

The report has demonstrated the importance of monitoring to make evidence-based decisions, demonstrate accountability for a scheme's introduction and contribute to knowledge sharing on the subject matter. Active travel and streetscape schemes require time and resource intensive monitoring to ensure positive change, credibility, and to determine their contribution to borough and city-level targets for active travel and air quality.

Cross River Partnership's Vivacity cross-project monitoring programme has helped to support partners from the Healthy Streets Everyday and Clean Air Villages projects to monitor and evaluate the impact of new schemes/ interventions as well as to understand changes in traffic data, social distancing (where applicable) and the implications for local emissions. We hope that this report can build on this initiative, helping to support the application of successful monitoring programmes and ensure that the implementation of streetscape interventions help to deliver healthy streets where people choose to walk and cycle.



Car Free Day 2019 - Royal Borough of Greenwich

1 Useful Resources & References

We have noted down the references that were used in this document.

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Image on page 25: Low Traffic Neighbourhood in Tulse Hill, London Borough of Lambeth.

Back Cover: Temporary wider pavements installed as part of TfL's <u>Streetspace for London</u> programme in Herne Hill, London Borough of Lambeth.



If you would like further information about anything that has been included in this guidance, please get in touch:

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