**Southend Local Sustainable Transport Fund – Digital Exploration Centre & Partners Proposal – December 2011**

**Introduction**

The aim of the Local Sustainable Transport fund (LSTF) in Southend is to encourage people across the Borough, both residents and visitors alike, to alter their travel choices from the car to bike, foot or train. The LSTF will enable a number of new and innovative initiatives to take place which will build on the progress made through programmes such as Cycle Southend and the recent improvements in cycling infrastructure across the Borough. Projects and activities include developing a coherent marketing branding for sustainable travel in Southend, the creation of a new Community Interest Company based on the successful Re-Cycle scheme, rolling out support for personalised travel planning and further implementation of the Southend cycling network.

Southend Borough Council is the lead partner in the project, but it has many other partners who are represented in the successful bid document who will deliver elements of the emerging programme. The DEC is one such partner and is clearly stated in the bid document as being able to support certain aspects of delivery. The DEC will explore some of the challenging issues relating to individual or collective transport choices through a small participatory ‘citizen science’ experiments with local communities and community representative groups across the Borough.

The LSTF bid document to Department for Transport, submitted in April 2011 states that the Council ‘will work with our partner organisation, the Southend based “Digital Exploration Centre” Trust (DEC Trust), who will draw upon their extensive creative and academic research networks to consider new ways of analysing, interpreting and utilising transport and other relevant data sources to support innovative methods of promoting sustainable modal shift to develop new ‘creative and open data’ tools and techniques that will be relevant to other authorities across the UK.’

Debates around the role of the public sector and statutory organisations in leading on encouraging behaviour change, including the methods of encouragement or ‘nudging’, change and resurface over time. Inevitably there is some acceptance from all sides of the ongoing debate that successful programmes to influence behaviour must be both overseen (to a greater or lesser extent) by Government and other bodies, while also assigning personal responsibility to individuals. Therefore the DEC proposal recognises that any work undertaken in support of the LSTF must be of relevance to local transport or environmental policy and the wider LSTF programme, while also being an experiment in engaging individuals to understand the impacts of their transport choices (or the impacts of other people’s choices). The two strands will of course meet, and the DEC will work with the Council and other partners to develop new ideas relating to transport and individual choice based on our findings.

**Principles / Theories behind the proposal from the Digital Exploration Centre**

Tim Berners-Lee, founder of the World Wide Web, has been a keen advocate of the Open Data Movement. He often sites the data for cycling accidents that was interpreted and analysed by individuals and transformed into a map by the timesonline.co.uk two days after release. Along with current government policy he sees open data as a way of empowering democracy in local authorities. In the case of the cycling accidents map it created pressure to clear up accident hotspots and at the same time enabled cyclists to become aware of potentially hazardous areas.

One of the problems with scientific data translated into appropriate behaviours for individuals to follow like ‘eating five a day’ or 'cycling is healthy' is that it requires a self-reflective, self-regulating individual to react or respond in a particular way, and to change their habits with reference to personal and often the wider public good. Many people in Southend as elsewhere may be disinterested in the traditional campaigns which seek to encourage behaviour change. In some cases it may be viewed as a form of discipline being imposed from authority or from outside of their communities. They may therefore prefer to rely upon their own intelligence and direct experiences to inform their own choices.

One way that DEC and its partners would like to think about this differently is to consider ways of working with communities, to understand and share their concerns and problems and help people to find new ways of expressing themselves and engaging in productive and collaborative activities. This occurs through individuals and groups directly addressing and tackling the issues that relate to them as in the cycling accidents map in London.

The DEC proposes to run a pilot citizen science project in 2012 that would involve direct participation by members of the public in generating pollution data as a way in to understanding the broader impacts of individual and collective transport choices. Through this work we expect that more people will critically engage with the issues of transport choice, especially for local trips. There will be individual responses to the issues, for example some may be more interested in broader issues of global climate change than direct impact of traffic on local streets. This is all instructive and will lead to new initiatives, programmes and marketing opportunities.

The DEC proposes that it is through such critical engagement in a range of issues that will see the LSTF succeed, in the process demonstrating Southend to be a forward thinking Borough, and that the means for achieving such engagement need not always be conventional.

We envisage working with Goldsmiths College (University of London) to create inexpensive small pollution sniffing devices that can be built by 11-18 year local school children in the classroom or other technical groups in Southend such the Linux Users Group. The devices can then be deployed by individuals who will wear them or have them fixed to bicycles, potentially including traffic wardens. We will not only limit ourselves to electronic sniffers but can also consider noise monitoring, soil and water analysis and charting biodiversity. At the end of a session the data would be uploaded to an app enabled website built and maintained by DEC.

This project will create new citizen science datasets that will be locally specific, but in their development they will open up new debates on the collection and use of data and how it can be used to understand personal transport choice, as well as broader transport policy. Working with schools, new projects could support existing curriculum activities around science, engineering, geography and mathematics for example.

We will also support the Council in developing an Open Data culture around transport datasets and information, supporting the Government’s recent drive for greater access, analysis and technological advance relating to public data. This element of work will be supported by the work with pupils and community groups; encouraging a broader understanding of data collection, its structuring, analysis and its application.

We will also facilitate and encourage the broader local ‘technical community’ to develop new ways of analysing data, or proposing new ideas that may impact upon transport choices.

The recent *Climate Change and Transport Choice* document published in July 2011 by the Department for Transport reflected on a large scale study into individual attitudes to transport choice and the issues that are likely to encourage modal shift. This represented an important point in the debate about sustainable transport and how choice is influenced as much by personal circumstances as the transport options on offer locally or nationally. We will reflect upon this recent research during the pilot project in Southend, applying and considering where appropriate some of the key findings of the research and relate it to the Southend context.

<http://www.dft.gov.uk/publications/climate-change-transport-choices-segmentation>

The DEC will support Southend Borough Council to build on the success of achieving funding for the LSTF, which in itself was built on the success of previous schemes, including City Beach and Victoria Gateway, and a coherent and ambitious Local Transport Plan. Developing new creative and innovative thinking around engaging communities in transport issues will aid further bids in the future, putting Southend at the forefront of new debates on the importance of sustainable transport choice and how data evidence and community engagement can play a key role.

**Open Data, the Government and Transport**

The DEC’s proposal to link public participation to the creation of new or the analysis of existing data sets feeds well into recent Government announcements on the importance of Open Data across a wide range of areas, including Transport. Data can be the raw material behind new and exciting innovations, and the DEC will be determined to develop new thinking and new products which can provide fertile ground for new opportunities, in the process putting Southend at the forefront of these debates.

The Chancellor’s recent autumn statement followed up on previous Government announcements regarding the concept of Open Data and how public data can be used to support innovative new ideas and products. The future use of transport data is mentioned in the detailed document that supported the autumn statement, along with other ambitious statements regarding the value of public data sets. Some of the key issues are set out below:

* *Empower local business growth and new markets with local transport data: real-time transport information will be released which will promote enterprise and improve access to public transport*
* *The effective use of public sector data is vital to the growth of the UK’s knowledge economy. Much of this information has a high value, both in terms of the economic as well as social benefit that can be realised through its use. Recent developments in technology and analysis techniques give other organisations, and even individuals, the opportunity to exploit this data in ways which government could not be expected to foresee or undertaken itself*
* *Expanding existing market opportunities – the insights garnered from a broader analysis of government data allows entrepreneurial organisations to transform current products and services and to target them more effectively to the appropriate audience/market; and*
* *Helping create new products and services**– as well as producing efficiencies for business in their current markets, analysis of government data allows entrepreneurial organisations to develop new and innovate products, many of which link to one another (creating positive network effects) and support the growth of complementary digital technologies (with spillover effects across the wider economy)*
* *Train and bus data – The Government will work with the transport industry to make available by April 2012 timetable and real-time train and bus information to support the development of innovative applications to improve passenger journeys*
* *This measure will support the development of a real-time transport information market, helping passengers to make better travel decisions and business to better predict logistics and travel needs. The measure will release under the Open Government Licence (OGL) comprehensive timetable and real-time train and bus information as machine-readable and machine-processable data, as well as locational information about the rail network and its railway stations*
* *DfT will work with the Highways Agency, Local Authorities and others to deliver a package of data releases on the road network throughout 2012, including*
  + *Underlying location data from the Highways Agency HAPMS system covering the English Strategic Road Network*
  + *Roadworks data held by local authorities*
  + *Unplanned disruption on English Strategic road network*
  + *Data from Urban Traffic Management Systems*
  + *Automatic traffic counter data on an annual basis*
  + *Historic road condition data to 2010*

**Southend-On-Sea - Digital City**

The wider ambition for the DEC as a project has always been to see Southend become a leading Digital City. While this specific LSTF proposition from the DEC as a strategic partner of the Council is relatively small in its initial ambition and scope, it potentially provides the Council and other strategic transport partners with the opportunity to take a lead on developing innovative approaches to its data (and the data of its partners), taking up the government’s challenge and creating new debates around the relevance of data and its role in informing approaches to transport. The work with the DEC may lead the development of new briefs for digital technologies to resolve or inform particular transport issues in Southend (new apps for example that can be linked to local transport datasets to inform choice). By engaging with local communities and creating interest around data, its creation and analysis, new opportunities may be created for the development of technological solutions (as opposed to the traditional approach of appointing an established provider to develop something).

**Ways of Seeing Data**

There are some important issues relating to data, its structure, analysis and collection and democracy that can be addressed by the DEC and its partners, all of which will provide interesting insights into how strategic bodies, including local transport authorities, can enhance their approach to data. The questions set out below will be clear reference points for the proposed DEC activities, and the DEC and its partners will return to them throughout:

* What happens when the community is involved/engaged in collecting data in unusual ways (i.e. individuals or groups become responsible for their own data collection, collaboration and analysis – not simply reliant upon official data sets)?
* Consider how data is currently influencing decisions regarding transport choice or transport policy, and engage the community in this debate
* Can we identify new community initiated data sets that can be created and possibly maintained to support informed transport choice and policy?
* Is there real openness between statutory departments and transport operators, with a shared aim of improving data knowledge, analysis and achieving real benefits for consumers/individuals? What is the impact upon communities and transport choice? What is the current cultural understanding of the role of data as a collaborative tool? How is data currently influencing decision making and strategy?
* Can Southend Borough Council become a leader in Open Data, supporting the Government’s Open Data agenda, and supporting the development of innovative applications?

**Informing Policy and Supporting the Broader LSTF Programme**

We will support the Council in making use of the results of our experiments, ensuring that the results of the pilot project are translated into tangible concepts and reports that are of clear relevance to the LSTF programme. The DEC will also assist the Council in promoting new concepts and ideas that have a wider application.

We will liaise closely with SAVS throughout the programme of activity, ensuring that activities are tailored to have the maximum impact and reach into local communities. In particular the DEC will liaise with the community volunteers and the community Wardens who are assisting with developing personal travel planning. The DEC will also work with Southend Education Trust to develop specific programmes with schools, linking to the developing Southend curriculum.

**Experience and Knowledge - What can the DEC bring to the LSTF?**

The DEC is a collaborative organisation which seeks to bring artistic/cultural practitioners together with academics, business and Government to inform new ways of working. The DEC associates have many years experience of working in public policy, regeneration and economic development, including significant experience of working closely with community groups. The DEC is a strategic partner of Southend Borough Council, and is engaging on a number of projects across Southend that will contribute to the Borough’s cultural and economic profile.

DEC associates also bring a popular yet critical perspective that has been recognised internationally within the academic field and cultural industries. This year Harwood and Yokokoji (YoHa) worked with Bristol City Council, University of West of England and the Pervasive Media Centre to explore open data initiatives looking into the councils expenditure and was also commissioned by the Primary Care Trust Liverpool to look at how NHS datasets can be used to create mass participatory artworks that critically engage with well-being. Harwood is also a leading member of the Centre for Cultural Studies at Goldsmiths, University of London.

The DEC has an excellent network of local and national technical, strategic, cultural and academic contacts, all of whom can be drawn in to support elements of programming. The project will be lead by Giles Tofield and Graham Harwood (YoHa). Giles will lead on liaison with the Council and other strategic partners, and on drafting key documentation, relating the work to the wider LSTF programme and strategic policy where appropriate. Graham will lead on the technical development of the project and liaison with academic partners, artists and on developing the databases, website and creative input.

**Citizen Science – The Pollution Sniffing Pilot**

The DEC recognises that the Council is a member of the Essex Air Quality Consortium and therefore has an existing interest in monitoring air quality across the Borough. Nowhere is this more relevant than near busy roads.

<http://www.essexair.org.uk/AQInEssex/LA/Southend.aspx?View=monitoring>

We are therefore proposing to create a community led, small scale DIY Pollution Sniffing project from May 2012 until Dec 2012. This would directly involve members of the public in generating their own pollution data from a series of DIY devices designed by DEC in association with YoHa and Goldsmiths College (University of London). We will upload the results to a community web site designed and managed by DEC and its partners.

The DIY Pollution Sniffing project speculates that understanding the broader impacts of individual transport choices through the personal collection of data would lead not only to critically engagement with the issues of transport choice and data acquisition but also to sense of a community engagement in a shared problem or issue.

It would appear that the main source of air pollution in the borough is road traffic emissions from major roads, notably the A13, A127 and A1159. As an example of how the DIY Pollution Sniffing project might work we can imagine school children building small scale electronic air monitors and attaching the devices to their bicycles on the way to school and uploading the results in the science or IT classes. Biology classes might study soil toxicology and take samples along key routes, others might be taking water samples in Prittlewell brook or looking for particular lichen, moss and fungi that indicate clean air.

The purpose of a pilot project of this kind is not of course to fundamentally identify and resolve the core issues of transport and its impact on the environment, as this is a huge and varied issue which requires a great degree of detailed scientific scrutiny which will not be possible for a pilot project of this kind. Rather, in creating citizen science projects relating to a specific issue of transport and how it may impact upon the individual and the wider environment, we hope to engage people on a level that will leave a lasting impression.

The pilot project is not setting out to prove a specific point on traffic and pollution. Rather, in the process of collecting data and working on a citizen science project, community groups and young people will be engaging with and thinking about transport in a way that takes them out of their everyday experience, making them consider possible impacts upon them as individuals, the local environment, the impact upon quality of place and the urban environment, and broader issues of climate change. This process cannot be achieved through marketing alone (although we suggest that marking approaches may be influenced in the future by project of this kind).

The process of developing the pilot project will create new opportunities for the Council and its partners to understand what future work could be undertaken to engage communities, community groups, schools and individuals in transport choice and its impacts. Future projects may focus on entirely different transport related issues, but the process of engagement may be similar.

Specifically the pilot project will explore the possibilities of community involvement in acquiring pollution data in the following areas:

* Road traffic noise.
* Soil, water testing.
* Chemical, carbon monoxide etc.
* Bio-diversity including, lichen, moss's, fungi etc.

The DEC will bring together pre-existing local assets such as geographical maps, pollution, transport data, any open data sets from the Office of National Statistics thought relevant, and local weather enthusiasts. We will then build a community website for discussion and uploading of the pollution data for our DIY devices.

*“Without real air quality data, people can be easily brushed aside, or worse, ignored. But nothing screams, "Take action!" like a link to a datastream updating in real-time showing how people are being affected at this very moment. This is the next form of self-expression”*

[*http://blog.pachube.com/2011/12/you-can-help-build-open-air-quality.html*](http://blog.pachube.com/2011/12/you-can-help-build-open-air-quality.html)

**Timetable for Delivery**

The DEC understands that funding is available for new projects under the LSTF from April 2011.

As the 2012 pilot is envisioned as a learning strategy for all we would propose meeting the council at each stage of the pilot project at which we would report on findings, recommendations and ways to take the pilot forward.

Outline Timetable (see budget for task breakdown)

Stage #1 May – July 2012**:** Scoping out assets, what communities of interest are we in touch with and what forms of geographies and data is available for the pilot project:

Stage #2 July - September 2012: Action research, refining from beta to alpha devices and website.

Stage #3 September – December 2012 Pilot Project: Roll out the project with schools and community groups – working closely with schools, Science Hubs, SAVS and community volunteers,

Stage #4 January – February 2012: Evaluate the results from the project, draw up plans for rolling out the project across the whole of Southend-on-sea and create a small booklet for publicising the project.

Stage #5 April 2013 – March 2013 full scale role out across Southend (to be proposed and budgeted separately).

**Open Hardware and Software**

* The DEC project will create a mobile phone accessible website documenting all technical details of the project.
* All data and the website will be maintained for 18 months.
* The project will use non proprietary software and open hardware.
* All images, documents other then confidential reports will be covered by creative commons licenses.
* Any data produced will be made available under the guidance of the rules laid down by the Open Data Foundation. Under the rules it should be possible for any potential user to:
* Discover the existence of data
* Access the data for research and analysis
* Find detailed information describing the data and its production processes
* Access the data sources and collection instruments from which and with which the data was collected, compiled, and aggregated
* Effectively communicate with the agencies involved in the production, storage, distribution of the data
* Share knowledge with other users

<http://www.opendatafoundation.org/>

**Documentation:**

* DEC/YoHa will produce a small publication for local distribution and will available in PDF format from the web site.
* We will also input into drafting policy and strategy relating to the LSTF and the DEC project as required/appropriate

**Budget**

The budget set out is for guidance only and is intended to provide the Council with an overview and understanding of the key budget areas and more detailed scope of work. The DEC is happy to discuss this with the Council and other partners as required, and to alter the proposal and budget. The budget is for a pilot project, and further work can be scoped and costed at any stage.

See attached excel spreadsheet**.**