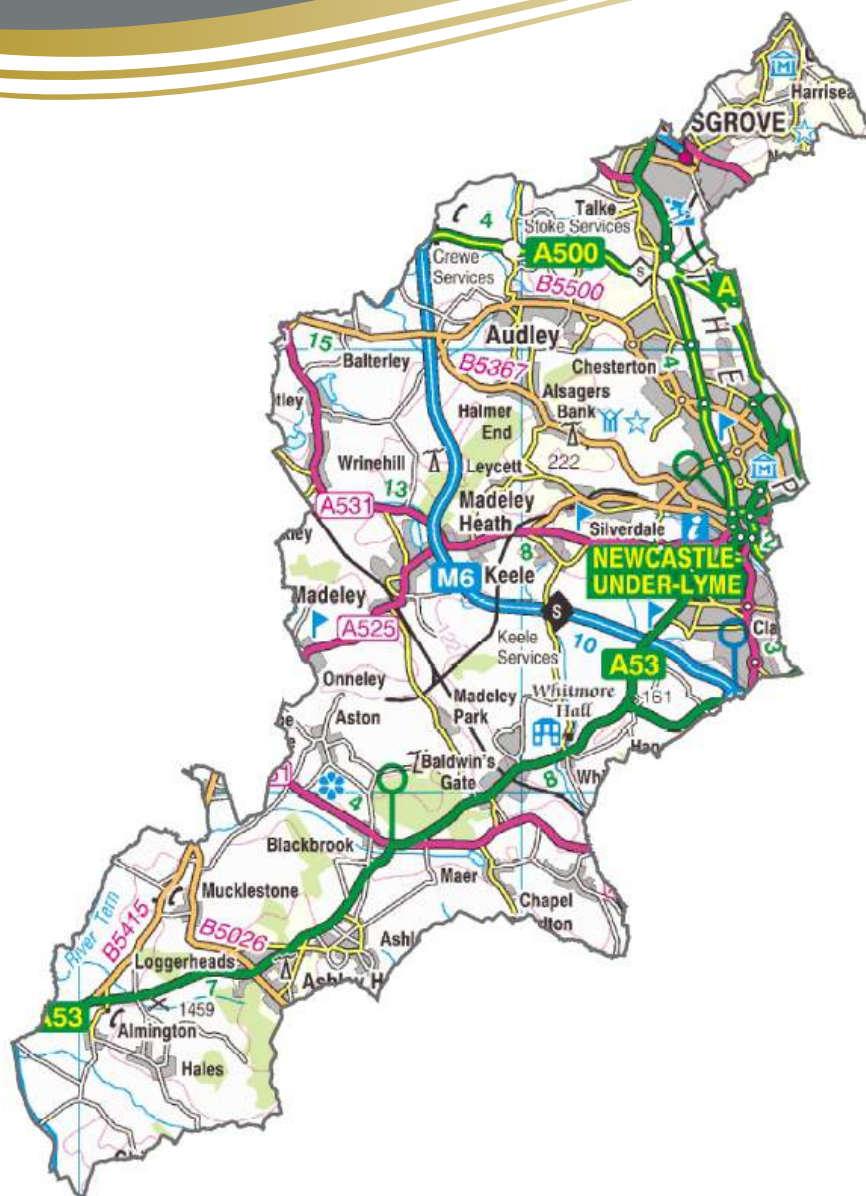


Newcastle-under-Lyme Borough Council Local Plan

Rural Accessibility Appraisal



Staffordshire
County Council

September 2015

Introduction

Newcastle Borough Council (NBC) is engaged in the staged preparation of their Local Plan in partnership with Stoke on Trent City Council which will guide development in North Staffordshire in the period to 2033. Staffordshire County Council (SCC) is working alongside the Borough Council to provide transport advice.

The start of preparing the Local Plan involves gathering evidence to identify the long term needs of an area over a twenty year period. This accessibility appraisal feeds into the evidence gathering process for the rural parts of Newcastle Borough.

Government guidance suggests that new development should be focussed in locations where residents can make use of existing services and facilities to maximise travel choice and minimise additional travel by private car.

Visography TRACC analysis has been undertaken by SCC to help identify the most sustainable locations across the rural parts of the Borough and provide a basis for establishing the relative sustainability of proposed locations for development sites, based on existing service provision. The results of this assessment are not relevant to very large housing allocations which are of sufficient size to change the local provision of public transport services and facilities such as local centres, school and GP surgeries. It would not be appropriate to assess such proposals based on existing levels of accessibility.

Access to a subset of destinations was then calculated using existing public transport and local service provision to enable the comparison of different areas within rural Newcastle.

This report details the findings of the study describing the analysis of the Visography TRACC work. It demonstrates that many rural settlements have access to a range of services and facilities.

Approach

Visography TRACC accessibility planning software supersedes Accession which was developed by Basemap for the Department for Transport to enable Local Authorities to measure and monitor local accessibility as part of the Accessibility Strategy in their Local Transport Plans. Visography TRACC calculates journey times based upon public transport timetable data, road network information and a range of user-defined parameters. The calculations can be applied to a range of destination types including doctor's surgeries, schools and town centres.

Accessibility in Newcastle Borough was calculated for the following destinations:

Employment;	Town centres;
Secondary schools;	Further education colleges;
Primary schools;	Hospitals; and
GP surgeries;	Supermarkets.
Local and neighbourhood centres;	

It should be noted that the provision of these services and facilities may change over time. Destination datasets are accurate for September 2015.

Accessibility was calculated using public transport for the majority of destinations; this included the use of bus and/ or rail services. The timetables used were dated 7 September 2015 and May 2015 for bus and rail respectively. The bus timetable data includes numerous service revisions by various operators that came into effect over the summer months.

When calculating accessibility for public transport, the software takes into account walk time to the stop/ station, wait time for the service, in vehicle travelling time and walk time to the destination. It also allows for interchange between services and modes such as bus and rail. The software includes a five minute interval between changes of services to model passenger acceptance of service interchange. Parameters have been set to define the maximum walk distance to access a public transport stop as 800m as accessibility evidence was requested for rural Newcastle. In urban areas the maximum walk distance to a public transport stop is set at 350m. To avoid confusion the accessibility plans show only results for the rural areas of Newcastle Borough as defined by NBC.

All calculations make use of the existing road network either to make the full journey in the case of walking or to access the public transport network and final destination in the case of public transport journeys. Urban paths, an Ordnance Survey dataset, which includes man-made footpaths, subways, steps, footbridges and cycle paths in all urban areas of Britain over 5 km² is included with the traditional road network. This was not possible for employment as a number of destinations are outside the County and road network data was not available for these areas.

It is not possible to confirm the pedestrian facilities available on each road and therefore as the calculations relate to the rural area it is likely that some walking routes particularly between settlements would not be considered safe for pedestrians and children in particular.

For primary and secondary school accessibility calculations; it is more appropriate to calculate accessibility on foot as children who live beyond 2 miles to their nearest primary school and 3 miles for secondary school are provided with free transport. This calculation uses the road network and applies an average walk speed of 4.8kph.

For all calculations, a threshold of 60 minutes was set within which the entire journey must be completed including any interchanges. The software computes a journey time for every ten minute interval within the defined time period to the nearest destination point and the shortest journey times are returned. Therefore, the accessibility contour maps represent the best journey time that can be achieved within the defined time period.

For some destination types, such as employment, it is not appropriate to calculate accessibility to the nearest destination point; as the nearest point of employment may not be suitable i.e. lack of job choice. For employment destinations a Hansen score was calculated. This combines the number of destinations that can be accessed within a 60 minutes journey time with the disbenefits of travel in terms of journey time and the total number of jobs available at the destination. The higher the score, the greater the level of access and choice. The results are shown in quartiles which are grouped by the Hansen score; e.g. the top quartile is the top 25% of Hansen score values.

In all the following Visography calculations were made:

- Public transport access to Employment (bus and rail) – Wednesday 07:30 to 09:30 hours – Hansen scores;
- Walking times to Secondary Schools (10 minute travel time isochrones);
- Walking times to Primary Schools (10 minute travel time isochrones);
- Public transport access to Further Education Colleges (bus and rail) Wednesday 0700 to 0900 hours (10 minute travel time isochrones);
- Public transport access to Retail Supermarkets (bus and rail) Saturday 1000 to 1300 hours (10 minute travel time isochrones);
- Public transport access to Retail Supermarkets (bus and rail) Wednesday 1000 to 1300 hours (10 minute travel time isochrones);
- Public transport access to Hospitals (bus and rail) Wednesday 0800 to 1000 hours (10 minute travel time isochrones);
- Public transport access to GP Surgeries (bus and rail) Wednesday 0800 to 1000 hours (10 minute travel time isochrones);
- Walking times to GP surgeries (10 minute travel time isochrones);
- Public transport access to the town centre (bus and rail) Wednesday 0700 to 0900 (10 minute travel time isochrones);
- Public transport access to the town centre (bus and rail) Wednesday 0700 to 0900; and

- Walk times to local and neighbourhood centres (10 minute travel time isochrones).

Contour maps showing the results of these calculations are included in Appendix A. The plots highlight relative levels of existing accessibility by mode across the rural portion of Newcastle Borough to individual destinations.

Results

Access to employment was calculated using Hansen scores which provides an overall measure of access to all employment location that can be reached within a 60 minute travel time using public transport. For this calculation of wide range of employment destinations within and outside of Staffordshire were included as interchanging with rail services are possible for some residents within the study area and calculation parameters.

The highest scores occur along the A53 adjacent to the urban area however this area appears to be sparsely populated and also along the A525 including Keele. Residents in these areas have access to a wide range of jobs accessed within good travel times using relatively frequent public transport.

The lowest scores are experienced in the south of the Borough along the A53 around Loggerheads. This is due to the limited service provision available within 0730 and 0930 on Wednesdays. The length of travel time and frequency of services mean that access to employment sites will be lower than other areas.

Madeley and Halmer End are the only rural settlements to have secondary schools. The majority of secondary school provision is within the urban area of the Borough. The accessibility assessment does not take account of the provision of safe pedestrian routes and therefore it is likely that journeys on foot cannot be made between some rural settlements to enable access to a secondary school by this mode. The shortest travel times are experienced in Madeley, Halmerend and Keele.

Most rural settlements have a primary school providing generally good walking travel times. Residential areas that don't have a primary school include Ashley, Blackbrook, Knighton, Maer, Whitmore, Acton, Onneley and Wrinehill. The largest rural settlements of Loggerheads, Madeley and Audley have walking travel times of up to 20 minutes to a primary school because of their size.

The longest travel times to access further education by public transport are experienced in the south of the Borough around Loggerheads, Ashley and Blackbrook. The shortest travel time (10 minutes) is for Keele as it is directly adjacent to Keele University. Madeley, Alsagers Bank and Halmer End can all access further education within 20 minutes travel time.

Public transport access to supermarkets was calculated for a Wednesday to represent an average weekday and a Saturday. Mow Cop, Harriseahead and

Onneley can access a supermarket by public transport on a Wednesday as the relevant bus services are not available at the weekend. Other parts of the Borough have the same travel times on Wednesdays and Saturdays. The shortest travel times of 20 minutes are experienced by residents of Alsagers Bank, Scot Hay, Keele, Keele University campus, Whitmore, Baldwins Gate, Ashley and Loggerheads. The longest travel times are experienced by residents surrounding the A531 such as Wrinehill.

There is generally good access to GP surgeries by public transport across rural Newcastle as most areas are within a 20 minute travel time. GP surgeries are located in Audley, Wrinehill, Madeley, Keele University, Baldwins Gate and Ashley and therefore these settlements have the shortest walking travel times. Outside of these rural settlements walking travel times increase rapidly and may not be possible utilising safe walking routes.

Travel times to a hospital using public transport are generally the longest of any destinations that were assessed. The shortest travel times (30 minutes) are experienced by the rural area directly adjacent to urban Newcastle including Keele. The area around Keele has direct bus access to the hospital whilst the remainder of rural Newcastle Borough is required to interchange and experiences travel times in excess of 40 minutes.

Access to town centres both within Staffordshire and in adjacent areas was calculated using public transport. The shortest travel times are experienced by residents of rural areas adjacent to Newcastle, Kidsgrove and Market Drayton. The longest travel times are found in areas around the A531 such as Wrinehill.

Local and neighbourhood centres are located at Audley, Bignall End, Keele University, Loggerheads and Madeley. Within those settlements walking travel times of up to 10 minutes are experienced. Adjacent rural settlements of Miles Green, Wood Lane and Keele can access a local centre within a 20 minute walk.

Conclusion

This report provides an analysis of current levels of accessibility for the rural areas of Newcastle Borough to a range of services and facilities by public transport or walking. The results show the relative levels of accessibility experienced by residents of the rural settlements. It would not be appropriate to assess large development proposals based on existing levels of accessibility as they would result in significant changes to local service provision.

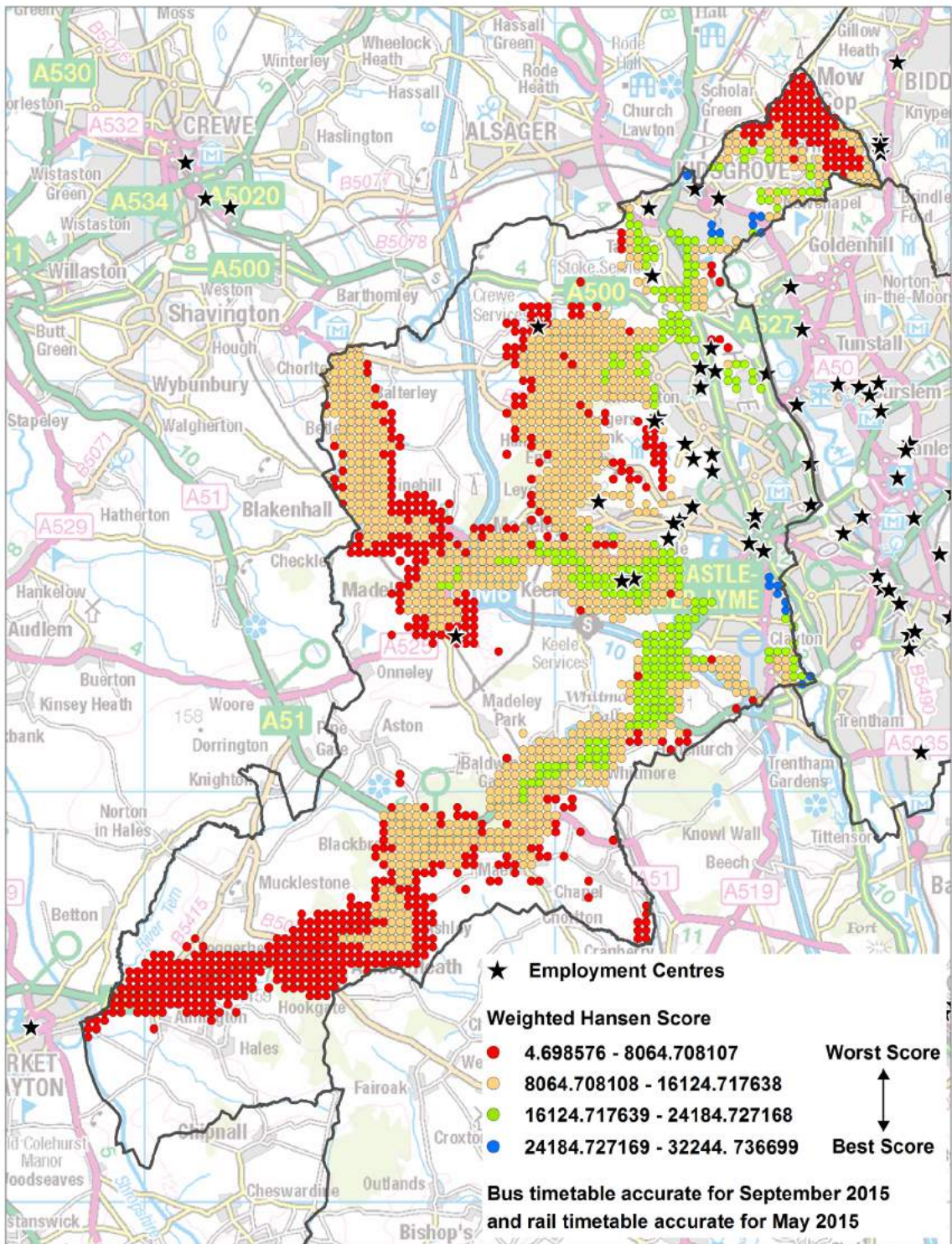
A number of rural settlements have consistently good access to services and facilities relative to the other settlements in the study area including Keele, Madeley, Whitmore and Baldwins Gate. Beyond these settlements Audley is the next most accessible rural settlement over the range of destinations. Settlements along the main roads where the most frequent bus services operate also have good access by public transport.

Loggerheads experiences very mixed accessibility in terms of travel times to the different services and facilities. The settlement has good access to GP surgeries, supermarkets and primary schools but longer travel times to secondary schools, further education and a range of employment destinations.

The longest travel times are to hospital as for the majority of the rural area an interchange is required. Primary schools and GP surgeries are well distributed throughout the study area and provide for good walking access.

Public transport accessibility calculations relate to September 2015 and it should be noted that bus services can change which in rural areas can cause significant changes to accessibility.

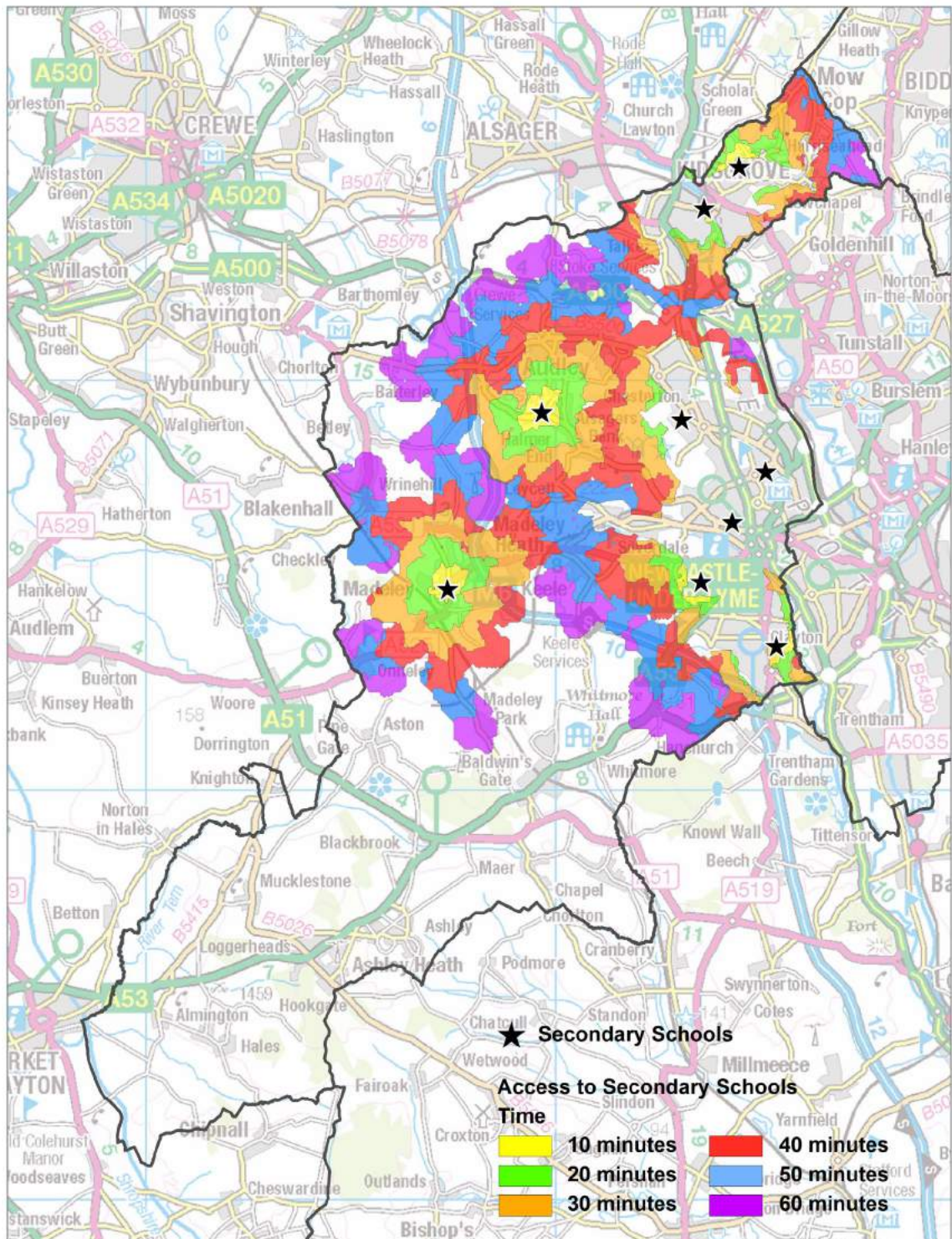
Rural Public Transport Access to Employment Centres (Bus and Rail)
 Wednesday 07:30 - 09:30 hours



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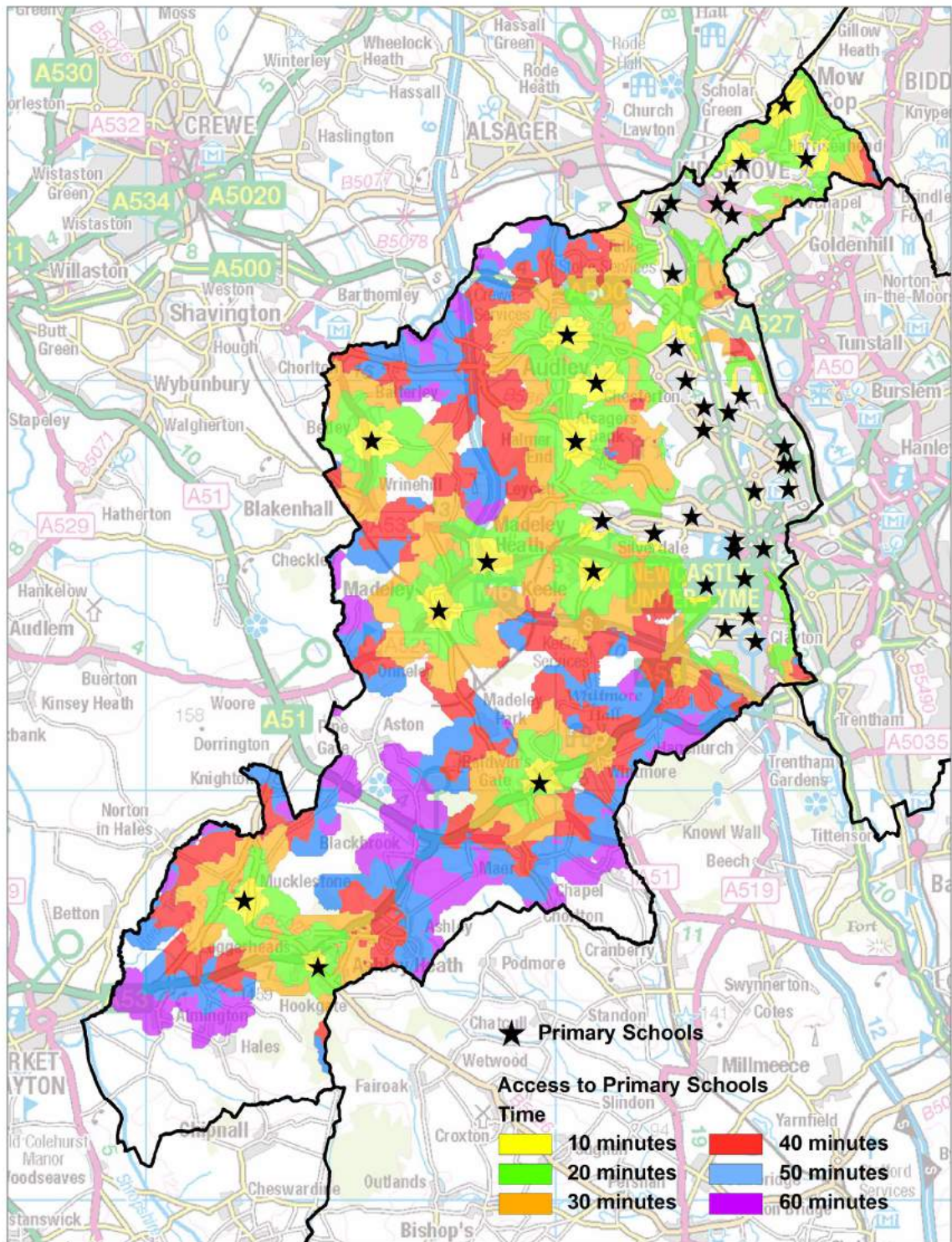
Rural Walking Times to Secondary Schools



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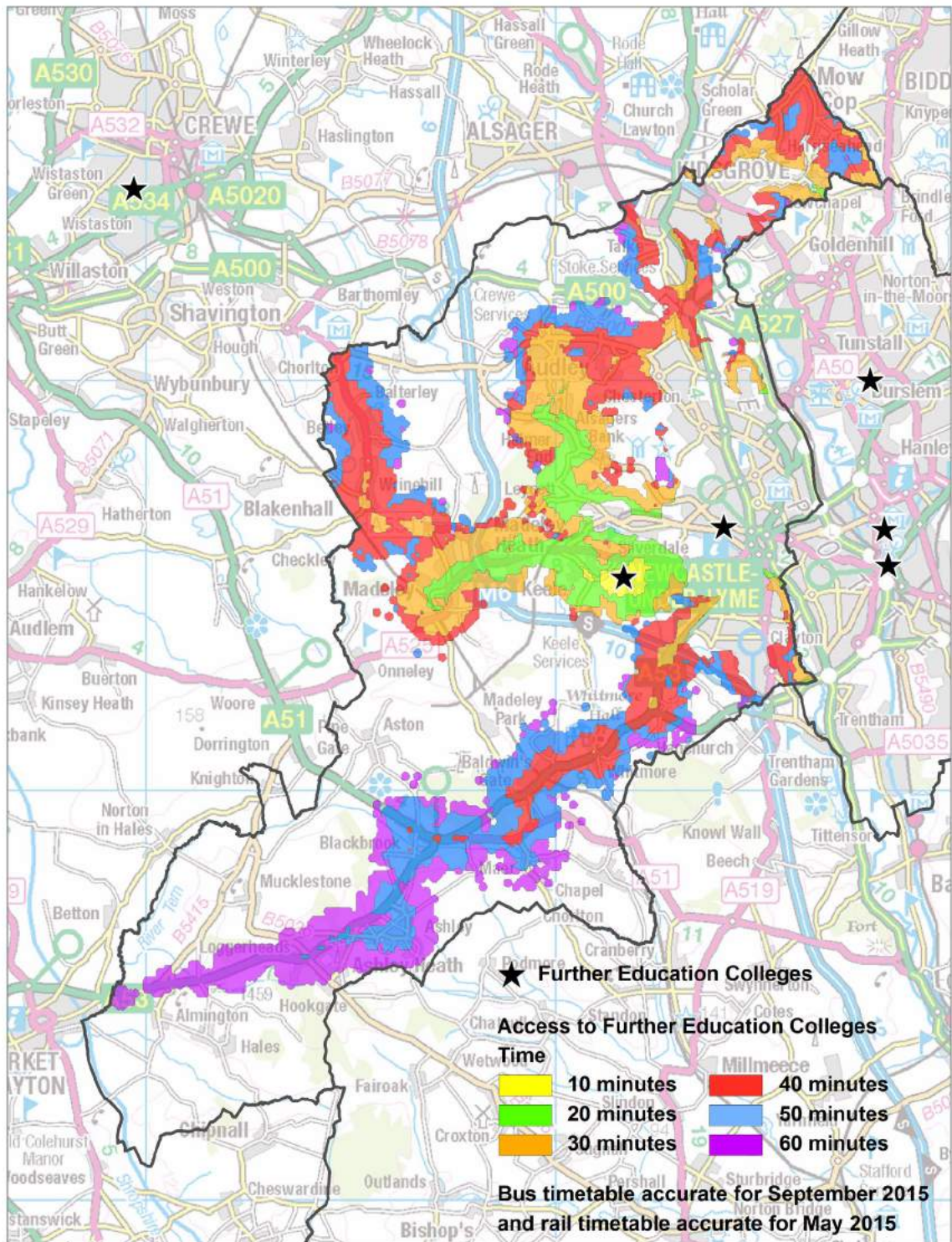
Rural Walking Times to Primary Schools



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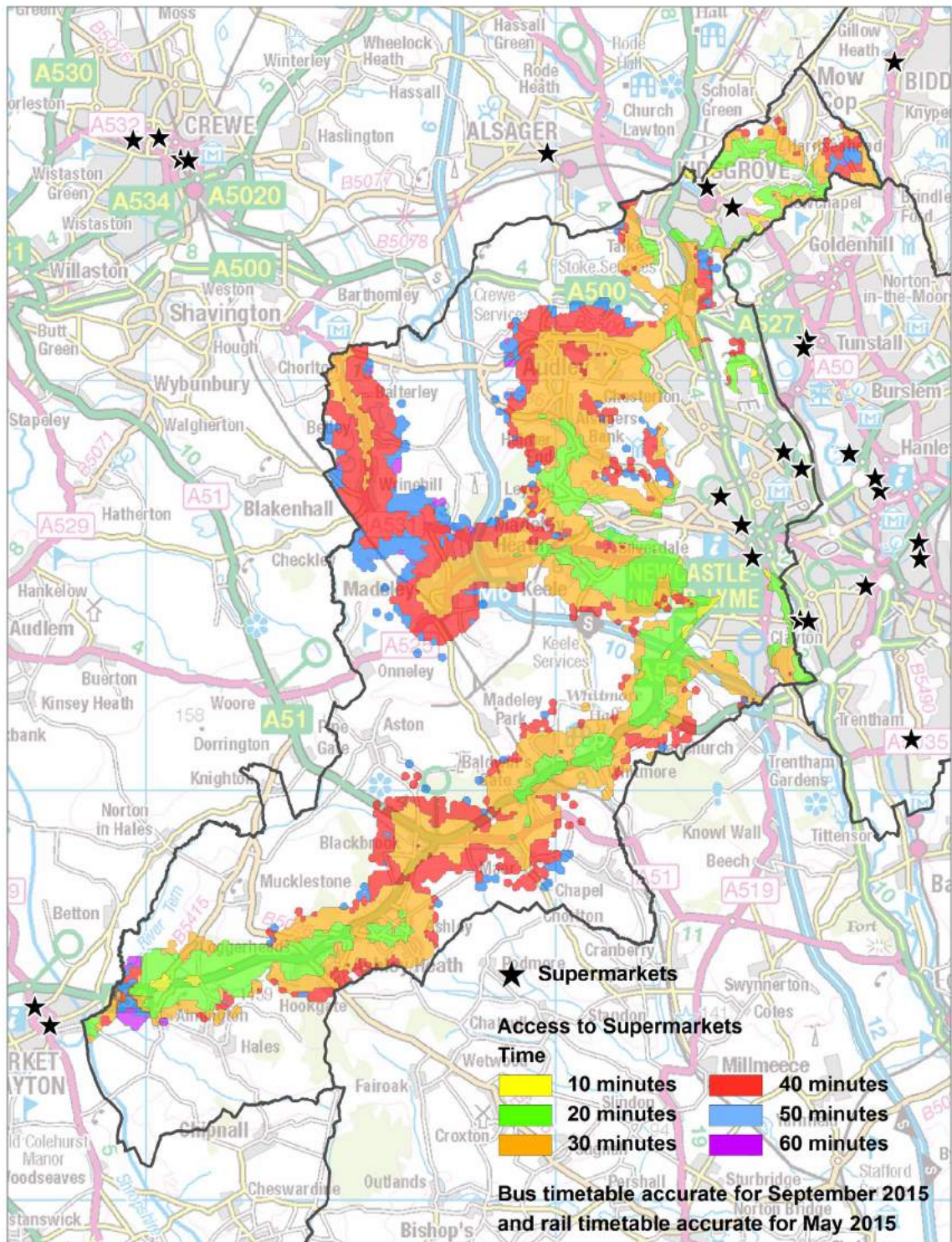
Rural Public Transport Access to Further Education (Bus and Rail)
 Wednesday 07:00 to 09:00 hours



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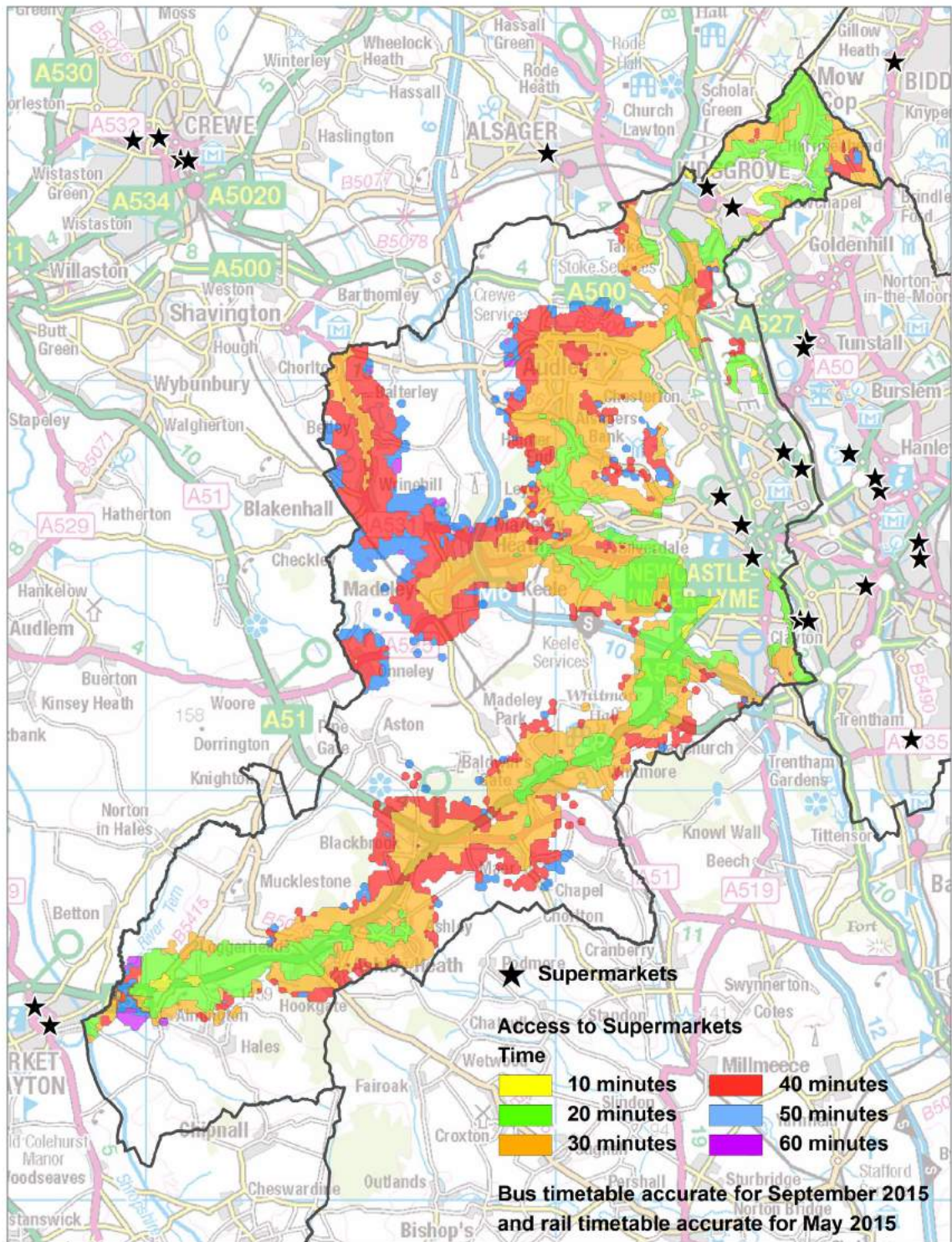
Rural Public Transport Access to Supermarkets (Bus and Rail)
 Saturday 10:00 to 13:00 hours



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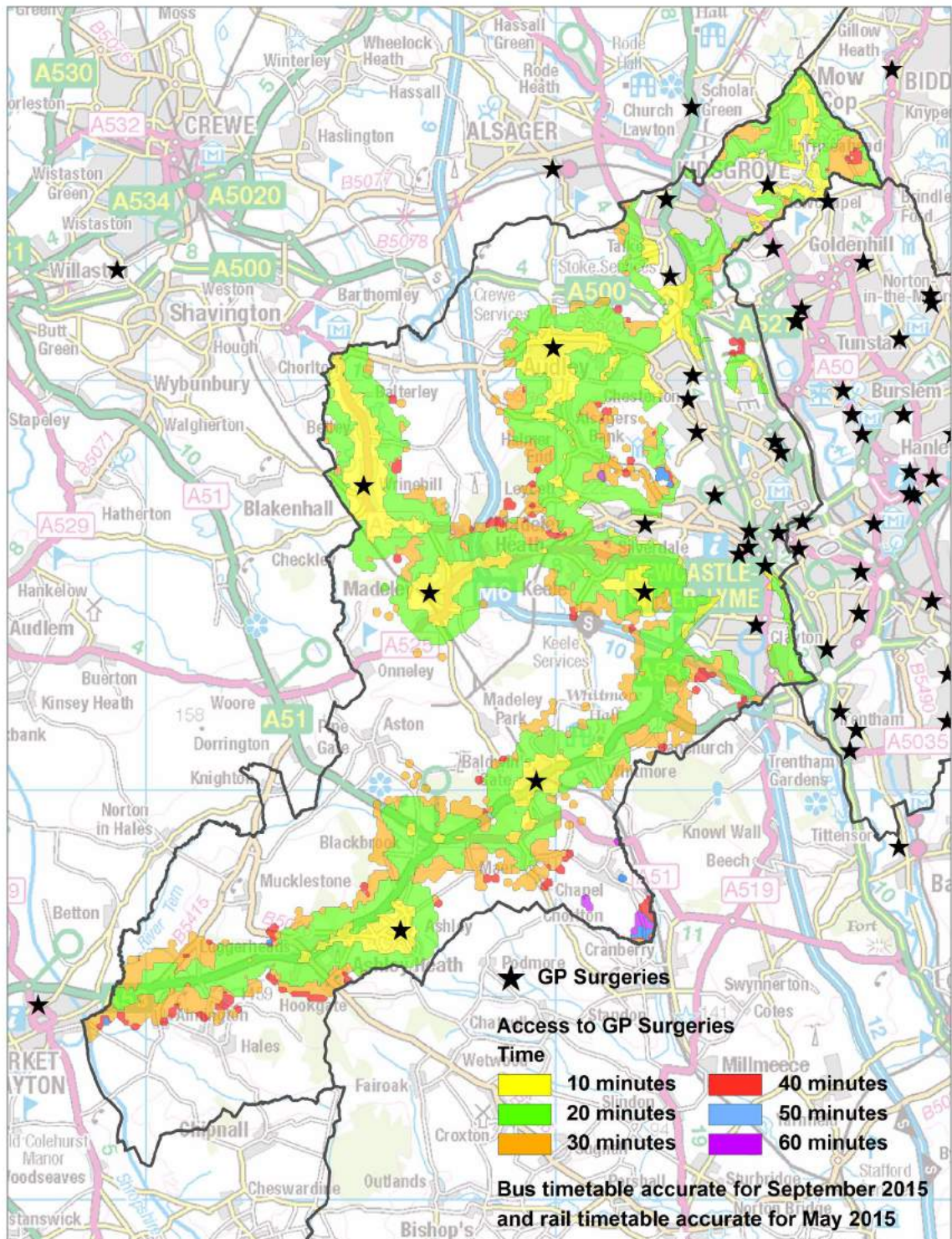
Rural Public Transport Access to Supermarkets (Bus and Rail)
 Wednesday 10:00 to 13:00 hours



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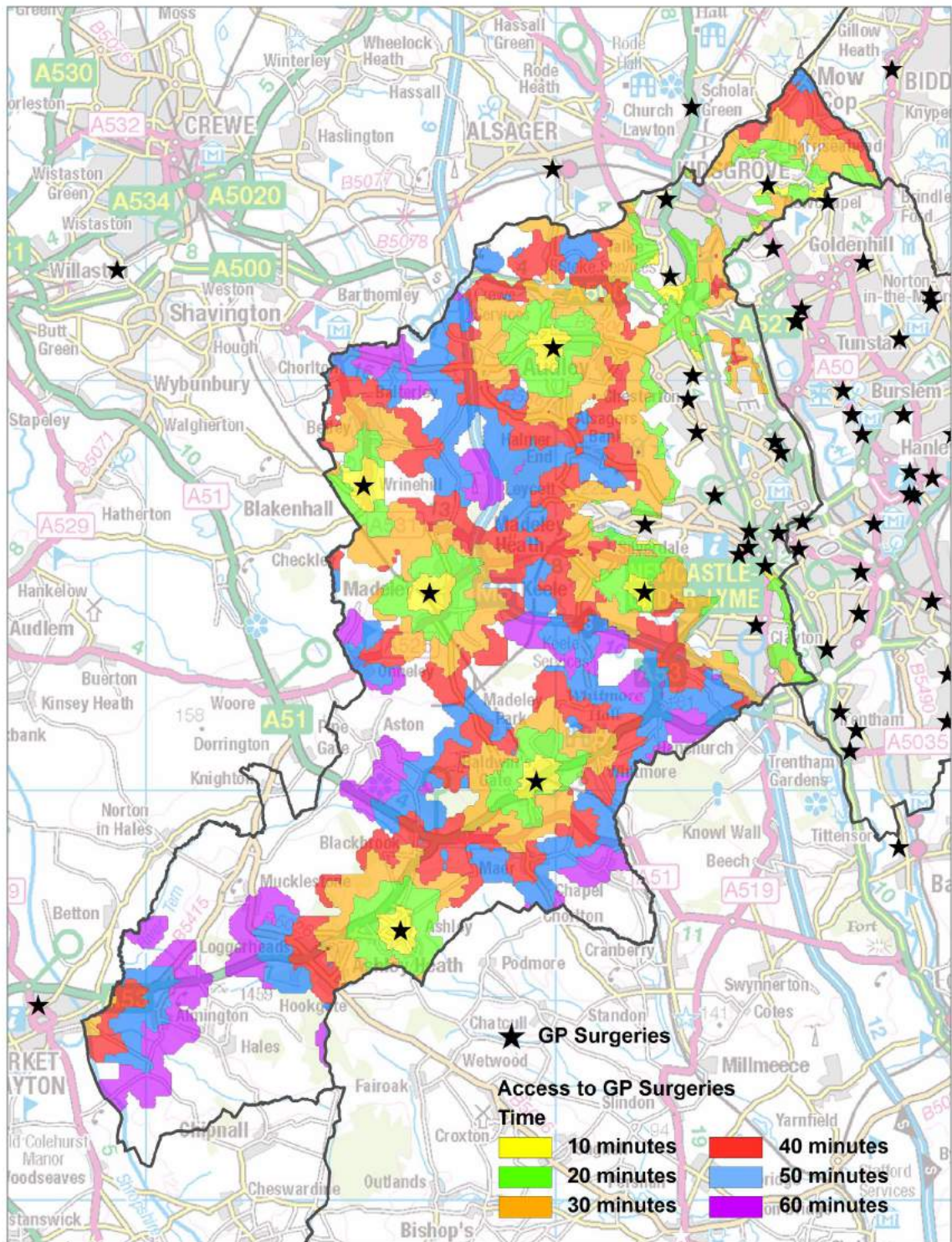
Rural Public Transport Access to GP Surgeries (Bus and Rail)
 Wednesday 08:00 to 10:00 hours



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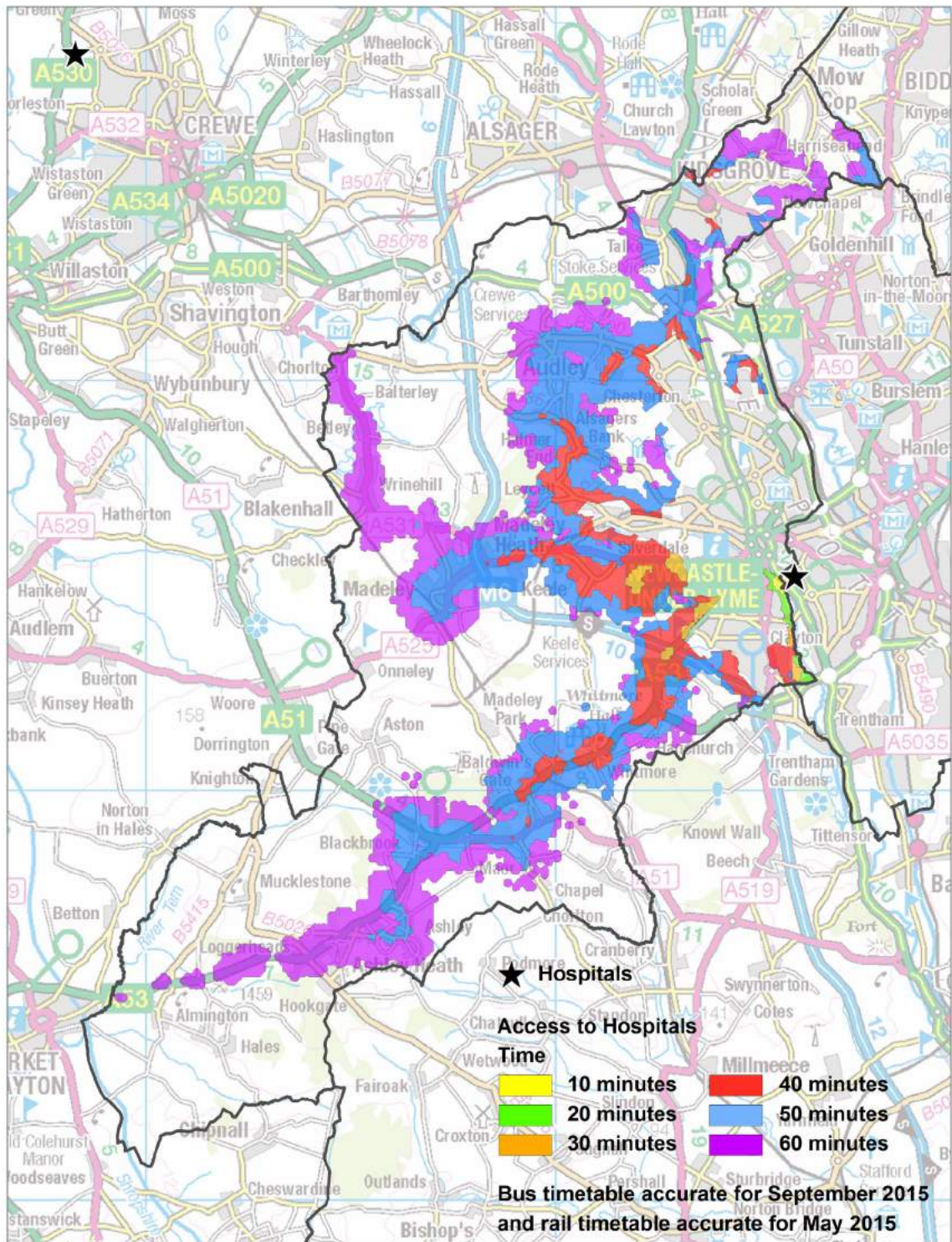
Rural Walking Times to GP Surgeries



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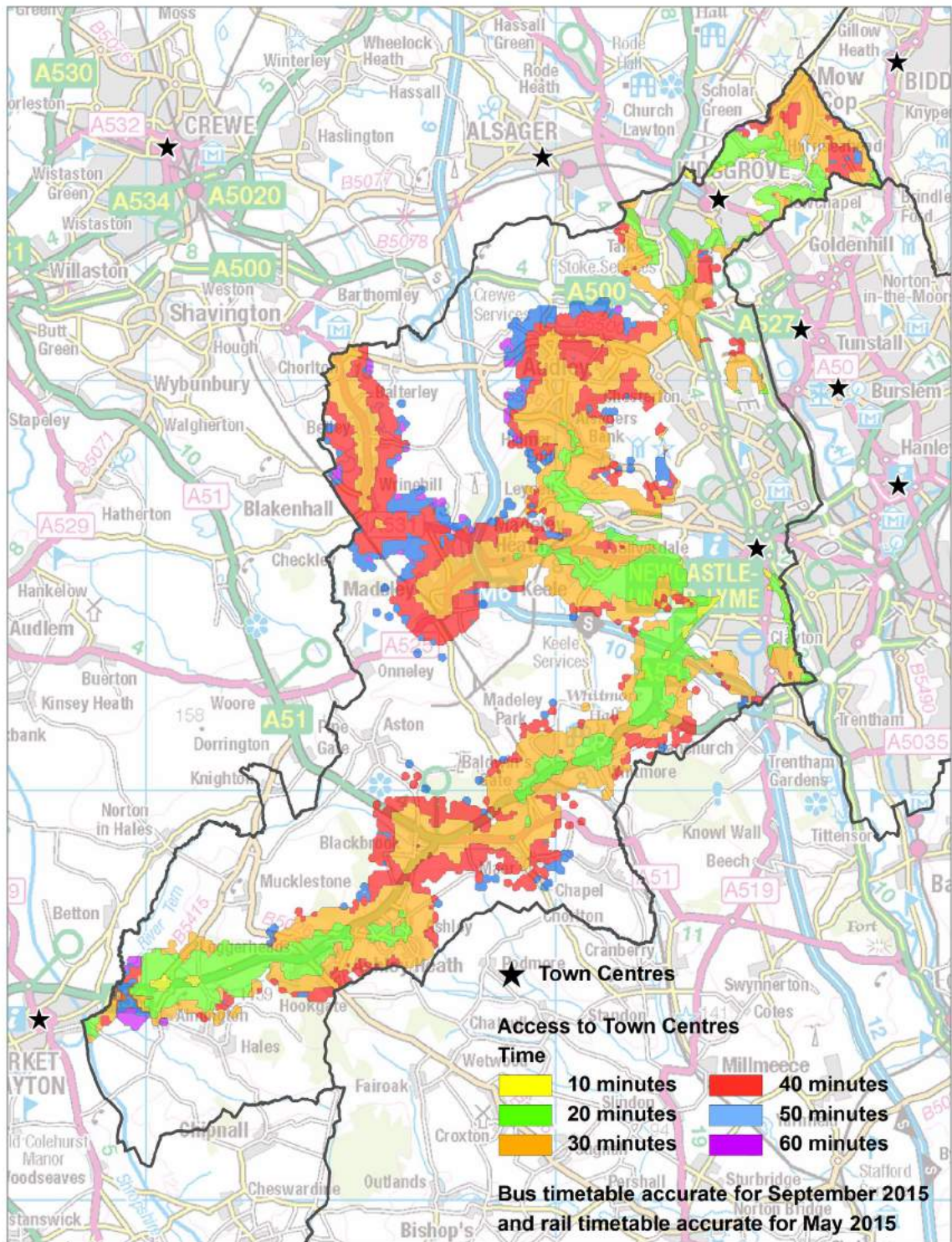
Rural Public Transport Access to Hospitals (Bus and Rail)
 Wednesday 08:00 to 10:00 hours



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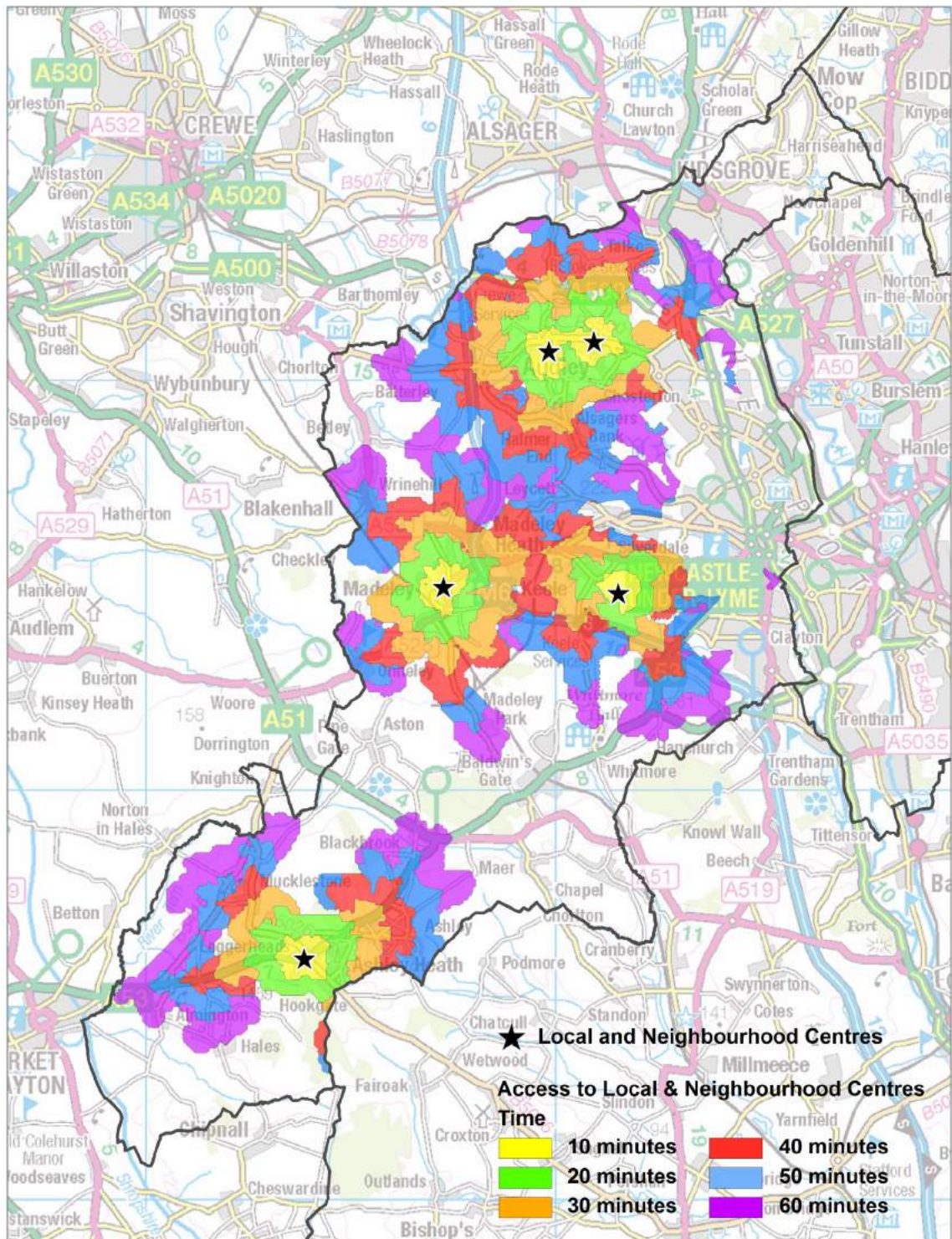
Rural Public Transport Access to Town Centres (Bus and Rail)
 Wednesday 07:00 to 09:00 hours



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Rural Walking Times to Local and Neighbourhood Centres



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