

Driving changes in school transportation

The Education Authority Northern Ireland

The Challenge

- Modernise the application process for school transportation

The Benefits

- Greater convenience and better information for parents
- Improved public confidence in the application process
- Potential time savings of over 58 days a year, when the app is rolled out nationally
- More accurate address information to assist decision making



School bus

Parents in Dungannon, Northern Ireland, can now use an ingenious little web app to check if their children are eligible for school bus travel and apply online. The solution, developed by Esri Ireland, has received enthusiastic feedback from families following a highly successful pilot.

The Challenge

Among its numerous responsibilities, the Education Authority is required to facilitate transportation for pupils who live more than a stipulated distance away from their allocated grant-aided school. Northern Ireland is a predominantly rural country and, as a consequence, over 90,000 children are eligible for free travel on school buses.

Every summer the Education Authority must consider in excess of 25,000 new applications in time for the start of the academic year. It is a very complicated process, which involves measuring the walking distance to school for each individual applicant and ensuring that all decisions about whether or not to fund transportation are made both quickly and fairly. Until recently, this entire process was driven by information collected and communicated in paper-based forms.

“The time had come to change this,” says Dale Hanna, transport manager at the Education Authority, Southern Region. “We want to make it really easy for parents to find out if their children are eligible for free travel and then submit accurate information for the application process online.”

The Solution

To help it achieve its goal, the Education Authority approached Esri Ireland and asked it to use Esri’s geographic information system (GIS) technology to create a web-based app that would be mobile friendly and accessible 24/7. Developed using Esri’s ArcGIS Platform, the solution integrates live Ordnance Survey map services and address data from Land and Property Services (LPS).

This ingenious app is now up-and-running as a pilot and available to parents of pupils moving from primary to post-primary education in the Dungannon area. When parents log in, a screen is presented that is already prepopulated with all of the pupil’s details. A map view shows the street where the pupil lives and an arrow marks the assumed location of the house or flat. If the arrow is in the wrong place, parents can simply slide the map using their touch screen or cursor to indicate the precise location of the property.

When parents tap the ‘submit’ button, the GIS-based app automatically calculates walking distances. If the pupil is clearly eligible, parents will receive an instant ‘yes’ response, and their application is automatically forwarded to the transportation team. Equally, if the pupil is evidently not eligible, parents are immediately notified. In other cases, such as if pupils live in areas marginally outside the eligible distance, the applications are forwarded for more detailed consideration. “It’s beautifully simple, yet a terrific demonstration of the power of digital geography,” says Eamonn Doyle, chief technical officer at Esri Ireland.

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“When the GIS web app is rolled out nationally, we expect to save over 58 days a year, which will free up staff to focus on delivering other important educational services.”

Dale Hanna, transport manager at the Education Authority, Southern Region



The ArcGIS web app helping to improve public confidence in the school transport application process

Benefits

A convenient service for parents

The school transport app has transformed the quality and availability of information for parents. In the majority of cases, parents can get an instant answer to the question ‘is my child eligible for school transport?’ Parents also have the convenience of being able to apply for transportation online, and don’t have to fill in lengthy forms. “The feedback from parents has been very positive,” says Colm Daly, information manager at the Education Authority, Southern Region. “This app moves our engagement with citizens to the next level and, in doing so, improves the quality of service to our customers.”

Greater public confidence

The new online app also helps to give parents a better understanding of the eligibility criteria for school transport and instils greater confidence in the application process. Whereas previously, the Education Authority only received a postal address for applicants in its paper forms, it now receives emails with a precise map and the coordinates of pupils’ homes. “This helps us to make better, faster decisions,” Daly states, adding that, “the app may over time reduce costly appeals.”

Improved operational efficiency

The Education Authority can now operate more efficiently in the pilot area, as it no longer has to waste time processing applications from parents who have used the app and discovered that they are not eligible. “In our Dungannon pilot, 15% of the people who used our app received a ‘no’ response,” explains Hanna. “We estimate that it takes 10 minutes to manually process a ‘no’ application, so in the pilot phase alone we saved over one working day. Across the whole of Northern Ireland there are around 2500 ‘no’ applications every year. When the GIS web app is rolled out nationally, we expect to save over 58 days a year, which will free up staff to focus on delivering other important educational services. Additional efficiencies are achievable by future advancements in integration with our back office systems.”

Enhanced data quality

One additional, unexpected, benefit has emerged, as Daly explains. “Because parents can correct the locations of their homes on the online map, they are effectively doing quality control on the address data and that’s pretty interesting from a GIS perspective. It means that we can actually go back to LPS and other data providers in the future and supply them with updates. I don’t think that anybody else in the UK or indeed in Europe is doing that right now.”

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