



INTRO

# Dynamic Scheduling in Local Government

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An introduction to Dynamic Scheduling in  
Local Government





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# Dynamic Scheduling

Delivering reliable, efficient services for your citizens with dynamic scheduling

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## What is scheduling?

As local authorities' demand for services grows, and their physical locations are spread wider, business operations and processes rely more on automated systems to create and update their schedules.

Offering citizens' a reliable, efficient service is crucial as local government professionals strive to deliver an improved service to their community. Today, technology solutions are ever-evolving and with the emergence of automated intelligence for greater insights, it is therefore important for local authorities to have flexible scheduling solutions in place. Scheduling software helps local government organisations to create a paperless environment, meet the needs of your local community, whilst improving capacity of your field-based workers. Firstly, we must identify what scheduling is and how it is beneficial to local government authorities.

Scheduling is the process of arranging, controlling and optimising work and workloads in a production process. In relation to mobile working, scheduling involves managing your field-based workforce and their workloads,

planning their daily rota and activities whilst dealing with other operational requirements of the job such as annual leave and sickness. It is essential to any business as without it, planners are manually inputting information and re-arranging schedules which can be a time-consuming process, whilst dealing with the day to day complexities including changes to schedules and appointment delays.

Dynamic scheduling, as its name implies, is a method in which the software determines which instructions to execute, as opposed to a statically scheduled machine, in which the compiler determines the order of execution. The solution works with the scheduler to make intelligent decisions based on the business objectives and requirements of the day. It allows easy access to live job information and changes as and when they take place available in real-time.

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# Scheduling in local authorities

So, how is dynamic scheduling relevant to the local authorities? Each business has different needs and criteria in relation to their approach to scheduling.

Local authorities will want to focus on staff delivering a consistent service for local citizens, while ensuring field-based appointments are delivered within time and ensuring the right resource is utilised. Scheduling is beneficial to local authorities with field-based staff such as housing or environmental teams, enabling them to meet SLA's and deliver an improved customer service experience. Implementing a scheduling solution can help drive efficiencies enabling your workforce to complete more jobs in a day. It also creates visibility as to what's going on throughout the day and that visibility could be vital to your organisation. It allows you to see how your workforce is interacting with the schedule throughout the day and allows planning managers to respond to any issues as and when they occur.

However, one size does not fit all in relation to scheduling. Different teams across diverse local government departments will each have their own criteria that attribute to the right schedule. For example, your parks and open spaces team won't require the same working solution as a waste management team. At Totalmobile, our solutions are designed to give your field staff everything they need, throughout their working day and at the point of service delivery, on any mobile device.

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## Real World, Right Schedule

We enable organisations to solve complex real-world scheduling challenges by providing staff with schedules that adapt to the changing day and are consistently efficient. How do we do this? With our dynamic scheduling solution and our AI assistant, Mendel. Together they provide expert scheduling which takes on board a wide range of considerations, such as skills required, availability and time frames to

ensure successful delivery. Trying to pair mobile workers to a specific visit can be a time consuming process when managing a mobile workforce with individual skills. However, our dynamic scheduling solution simplify this procedure for you, ensuring an easy and efficient scheduling process.

# Business benefits

## of our dynamic scheduling solution

### More jobs completed per day –

Providing mobile workers with an automated schedule, fully visible and available before their day begins, along with structured routing travel plans, ensures an efficient service and the mobile worker can get straight to work. As well as reducing unnecessary trips back and forth to the office, staff can attend more appointments while out in the field.

### Increased productivity –

By giving your mobile workers the freedom to work at the point of delivery or on the move, you are increasing productivity and capacity within your local government organisation.

### Reduce Co2 emission and fuel costs –

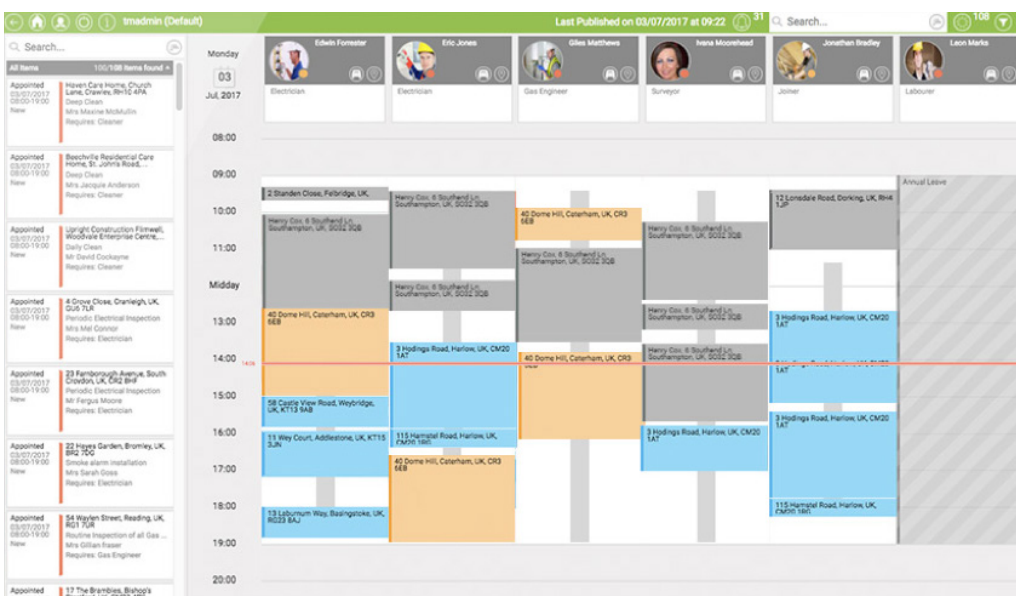
With our dynamic scheduling solution and its routing capabilities, it is easy to save costs by ensuring the routes to jobs are optimised, reducing how far mobile workers have to travel and eliminating unnecessary trips to the office. Less time travelling means reduced fuels costs and Co2 emissions.

### Achieve and exceed your SLA's –

Dynamic scheduling speeds up the process of appointments or jobs being completed on time; an efficient workforce therefore allows you to meet those all-important SLA targets whilst meeting the demands of your citizens.

### Meet real world issues head on –

Changes can occur in schedules which can disrupt the schedule plan such as staff absences and changing preferences. Our dynamic scheduling solution reacts to these changes as and when they occur, adjusting and reevaluating the schedule, to assess where changes need to be made based on priority level and business objectives.





# Say hello to Mendel

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## Mendel

Using genetic algorithms and our own unique artificial intelligent engine Mendel, our dynamic scheduling solution identifies ways to make the best use of time and resources to solve and maximise the most difficult scheduling issues.

It allows you to define preferences for jobs before you send them to the job list and Mendel schedules them. Constraints include multiple resource jobs, preferred resource, prohibited resource, projects and job dependencies and automatic appointment booking.

Appointment slots are displayed based on capacity/availability varying from no availability to low, medium and high. Similarly, visits are also colour coded to represent the visit state varying from not started, overdue, at risk, started, overrun to complete.

Both schedulers and their mobile workforce can view their schedule in various view options whether it is day, week or month. This allows the worker to know what visits they have planned in advance. The mobile worker can also benefit from a map feature to view current locations of resources and job locations as well as planned routes and directions. Our dynamic scheduling solution integrates with Google API for travel information with modes of travel including driving and walking. Mobile workers can record unavailability such as sickness or annual leave on their mobile application or alternatively this can be completed by their managers.



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# Key features:

Using a dynamic scheduling solution provides local authorities with full visibility of large workforce field-based teams such as those working in social housing or environmental services.

Along with keeping track of your teams, our scheduling solution allows you to reschedule resources, eliminate unnecessary travel time with efficient routing, whilst having tenants'/premises/citizens details to hand all in one dashboard. It is designed to offer a range of intuitive features including:

## **Scheduling** –

Our clever scheduling solution provides a rich graphical means for your local authority to allocate, reallocate and recall work in the diaries of your mobile workforce. It provides a complete view of the current status of staff diaries with live colour-coded feedback from user devices, including when work has started, is completed, is overrunning or scheduled to start late.

## **Multiple scheduling options** –

Mendel provides a range of levels of schedule management, it can be used fully dynamic, allowing Mendel full automation control, perfect for larger deployments. For those who want to maintain some control, there is the Intelligent Assistant which allows you to override any decision from Mendel and for smaller deployments you can decide to take full manual control. Finally, Mendel On-Demand offers all the flexibility of the Cloud and its ability to auto scale to processing peaks. It can be seamlessly bridged to your existing Totalmobile infrastructure or as an add-on to our Optimise SaaS service.

## **Worlds** –

A “World” is a self-contained scheduling solution. It can represent an entire health organisation or a department within your organisation. The use of Worlds means that you can apply different scheduling objectives and constraints to different parts of your organisation. You can also loan resources between worlds where extra capacity can be used by those departments or teams that are currently under resourced.

## **Scheduling dashboard** –

Our interactive dashboard provides real time indication of the overall status of the organisation schedule, informing the person managing the schedules of the current utilisation of the overall workforce and individual resources. It also highlights the level of supply and demand for specific skills, allowing transformative business decisions to be made.

## **Maps** –

The map view indicates the locations of work and resources as pins, presenting a creative view of the World and assisting your mobile working staff in visualising the scheduling solution at any point in time. In-depth details are highlighted when a resource is selected, providing a view of the planned work and optimum travel route for that resource.

Imadmin (Default) Last Published on 03/07/2017 at 09:22 31 Search... 108

Search...

108 Items Found

03 Jul 2017

Edith Forester Electrician  
Eric Jones Electrician  
Giles Matthews Gas Engineer  
Inna Moonhead Surveyor  
Jonathan Bradley Joiner  
Leon Marks Labourer

12 Vicky Road, Sennocks, UK, TN14 5LJ  
Home Visit  
Mrs Tanya Morgan  
Requires: Support Worker

58 Castle View Road, Weirbridge, UK, KT13 9AB  
Install Smoke Alarm  
Mr Richard Adams  
Requires: Electrician

34 Longford Road, Hampton, UK, CR8 9JH  
Home Visit  
Mrs Gemma Fulton  
Requires: Support Worker

19 Myrie Close, West Drayton, UK, UB7 5LL  
Routine inspection of all Gas...  
Mr Matt Simmons  
Requires: Gas Engineer

10 Milton Road, Dutton Green, UK, TN13 2JU  
Home Visit  
Mr Trevor Graham  
Requires: Support Worker

14 Bulger Avenue, Harrow, UK, HA1 4EN  
Void Inspection  
Mrs Jane Robinson  
Requires: Surveyor

3 Hedgely Road, Harlow, UK, CM20 1E  
Replace all skirting boards in...  
Mrs Donna Fraser  
Requires: Joiner

Imadmin (Default) Last Published on 03/07/2017 at 09:22 31 Search... 108

Search...

108 Items Found

03 Jul 2017

Edith Forester Electrician  
Eric Jones Electrician  
Giles Matthews Gas Engineer  
Inna Moonhead Surveyor  
Jonathan Bradley Joiner  
Leon Marks Labourer

Repair Care Home, Church Lane, Chives, W10 4TA  
Deep Clean  
Mrs Maxine Middleton  
Requires: Cleaner

Brookfield Residential Care Home, St. John's Road...  
Deep Clean  
Mrs Janice Anderson  
Requires: Cleaner

Upright Construction Firmw...  
Wooden Floor Centre...  
Daily Clean  
Mr David Cookson  
Requires: Cleaner

4 Orsey Close, Cranleigh, UK, GU9 7JL  
Periodic Electrical Inspection  
Mrs Mal Connor  
Requires: Electrician

33 Farnborough Burying, South Oxendon, UK, CR2 8JF  
Periodic Electrical Inspection  
Mr Fergus Moore  
Requires: Electrician

22 Froggy Garden, Bromley, UK, BR2 0JQ  
Smoke alarm installation  
Mrs Sarah Giles  
Requires: Electrician

34 Weyton Street, Reading, UK, RG2 1JH  
Routine Inspection of all Gas...  
Mrs Gillian Fraser  
Requires: Gas Engineer

17 The Brambles, Bishop's Cleeve, UK, CV23 4PX

08:00  
09:00  
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11:00  
Midday  
13:00  
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15:00  
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17:00  
18:00  
19:00  
20:00

2 Stranden Close, Febridge, UK, CB3 8BB	18 Tor Road, Farnham, UK, GU9 7BY	157 Cowley Avenue, Chersey, UK, KT15 5JL	3 Hedgely Road, Harlow, UK, CM20 1E	12 Lansdale Road, Barking, UK, BA4 1JF	Annual Leave
42 Drove Hill, Caversham, UK, OX3 2BB	20 Kin Lane, Farnham, UK, GU10 7LJ	2 Hawk Lane, Bracknell, UK, RG12 5JF	17 The Brambles, Bishop's Cleeve, UK, CV23 4PX		
12 Lansdale Road, Barking, UK, BA4 1JF	5 The Cedars, Milford, UK, BT22 2FF	18 Colston Drive, Telford, UK, TF10 6AW	18 Lansdale Road, Sharnage, UK, SG11 8LL	1 Wheatsheaf, Chesham, UK, EN7 8JH	
21 Meadows, Epsom, UK, KT19 8JZ	13 Marina Wood, Milford, UK, GU8 5DB	3 High Street, Brentley, UK, GU5 0HB			
58 Castle View Road, Weirbridge, UK, KT13 9AB	15 Moor Road, Guildford, UK, GU1 2EJ	19 Myrie Close, West Drayton, UK, UB7 5LL		3 Hedgely Road, Harlow, UK, CM20 1E	
11 Way Court, Addlestone, UK, KT15 3UN	7 Lynch Avenue, Guildford, UK, GU1 1JZ	18 Eghorston Avenue, Southal, UK, UB1 2AX			
13 Lutetium Way, Basingshoke, UK, RG23 8UJ				115 Hempel Road, Harlow, UK, CM20 1E	

# A Day in the Life of a Scheduler and a Mobile Worker

Exploring how mobile workforce management improves processes and communication between schedulers and mobile workers; enabling them to respond to changes throughout the day with minimal disruption and maintaining a high standard of service.



8:30 am

At the start of the working day, the scheduler assesses the workload for the day ahead and the mobile staff they have available. They prioritise these needs with their company objectives and the targets they are aligned to, depending on the organisation these can range from maximising jobs per day, continuity in service delivery or reducing travel costs.



9:00 am

Through the dynamic scheduling solution, the schedule is automatically created in-line with company objectives and the requirements of the day ahead, whilst ensuring that the right skills are assigned to the right job.

*The mobile worker receives their schedule of work, by effectively scheduling travel between jobs is optimised, reducing wasted journeys to sites where they have no entry or no attendance issues. They are already operating more efficiently.*

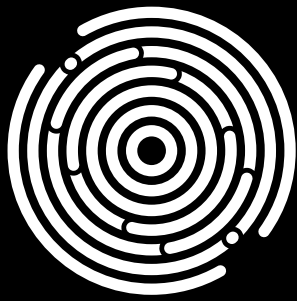


11:00 am

A common issue many organisations face are sudden changes within the working day that will affect the schedule, these need to be responded to and implemented into the schedule quickly to ensure the organisation maintains a high level of service while continuing to meet targets. In this instance, a member of the team has called in sick.







# Totalmobile



11:30 am

Rather than having to manually re-evaluate the whole schedule, the scheduler can change the resource availability and allow the solution to automatically adjust to the new information; it reprioritises and reschedules the work whilst maintaining core objectives. Once the scheduler is happy, this new schedule is communicated directly to the mobile worker without having to make lots of calls - interrupting service delivery.

*The mobile worker receives an updated schedule to reflect changes made due to sick member of staff. Their day has been adjusted with minimal disruption and they are able to continue on to their next visit.*



2:00 pm

*As the day continues, the schedule is proceeding as planned with jobs being completed on time, until an unfortunate traffic jam causes a mobile worker to be delayed, they're now running late for their next visit. They contact their scheduler to make them aware.*

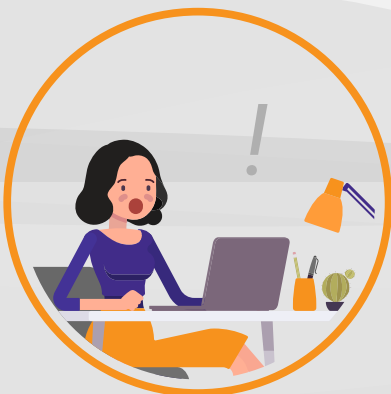
The scheduler back in the office is made aware of the traffic issue both from the call by the mobile worker but also through the scheduling solution, they can see that the mobile worker is stuck and not where they are expected to be. They can then decide whether to reschedule the visit, contacting service user to inform them or reassign the job to another member of staff.



2:30 pm

The scheduler is able to see another mobile worker near the affected service user's location and they have upcoming availability. The scheduler decides to manually assign the job to them, sending an updated schedule.

*The mobile worker stuck in traffic is notified that the job has been reassigned easing their pressure and allowing them to continue onto next job. The re-assigned job is received by the other mobile worker, who accepts and continues with their day. The main benefit being that the service user receives a high standard of service, one that is on time and efficient.*



## CASE STUDY

# Kirklees Council



Kirklees Council represents one of the larger local authority districts in England and Wales, ranking eleventh out of 348 districts and is the third largest in area, covering 157 square miles.

Totalmobile has worked alongside Kirklees Council since 2008, when they began their mobile working journey starting with TotalRepairs and our Mobile Workforce Management solution. With the successful implementation of Mobile Workforce Management, the next phase of their mobile journey was the introduction of Dynamic Scheduling.

Kirklees Neighbourhood Housing (KNH) is an Arms Length Management Organisation (ALMO) set up by Kirklees Council in 2002 to manage council housing. Kirklees Neighbourhood Housing (KNH) have a wealth of experience in workforce scheduling and knew exactly what they needed from a good scheduling solution. They wanted the opportunity to modernise their application estate and reduce operational costs.

### Results:

- The organisation has seen a saving of £9k per year for support costs, with a further saving on interfaces of £5k per year
- On average 20% more jobs completed per day
- Cost effective, user friendly solution, developed with the end users in mind
- Operatives now have even more access to job information on their mobile device
- For planners, the scheduling solution takes a lot of the pressure away by completing everyday repairs scheduling

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research papers and more

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Totalmobile will help you release the potential in your mobile workforce. Our 'mobile worker first' approach to innovation results in solutions people love to use.

Our customers are seeing significant increases in workforce capacity and cost savings, while also ensuring compliance and driving levels of service consistency. We will transform how your organisations works and help your people do more of the work that really matters.

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