Highway Maintenance and Management Private Finance Initiative

Managing the Assets:

Can PFI deliver improved standards for Birmingham's Highways?

University of Birmingham Senior Road Executives' Programme

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Format of Presentation

- What is Asset Management?
- Birmingham's Highway Network – Setting the Context
- Birmingham's Highway Maintenance and Management PFI Project
- PFI – Principles
- Is Asset Management Achieved?

Definition of Asset Management

"Asset Management is a strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the highway infrastructure to meet the needs of current and future customers."

Framework for Highway Asset Management, CSS, 2004

Birmingham's Highway Network

Setting the Context

Birmingham City Council

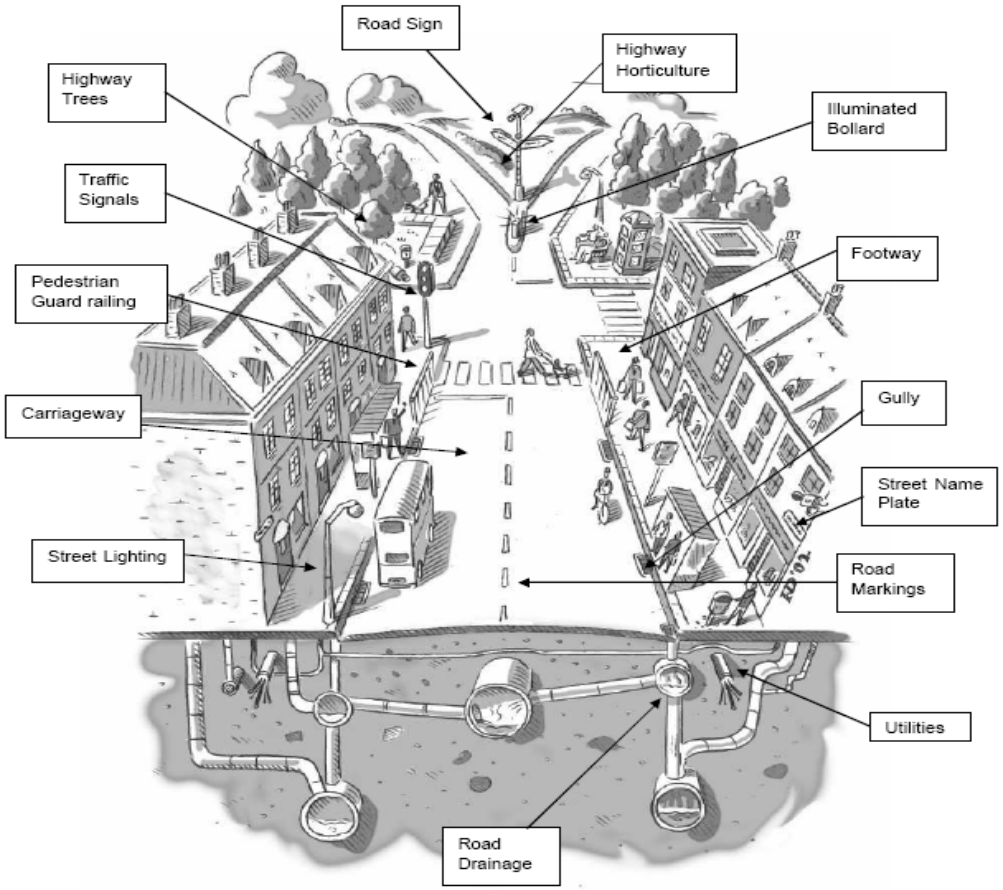
Highways Facts and Figures:

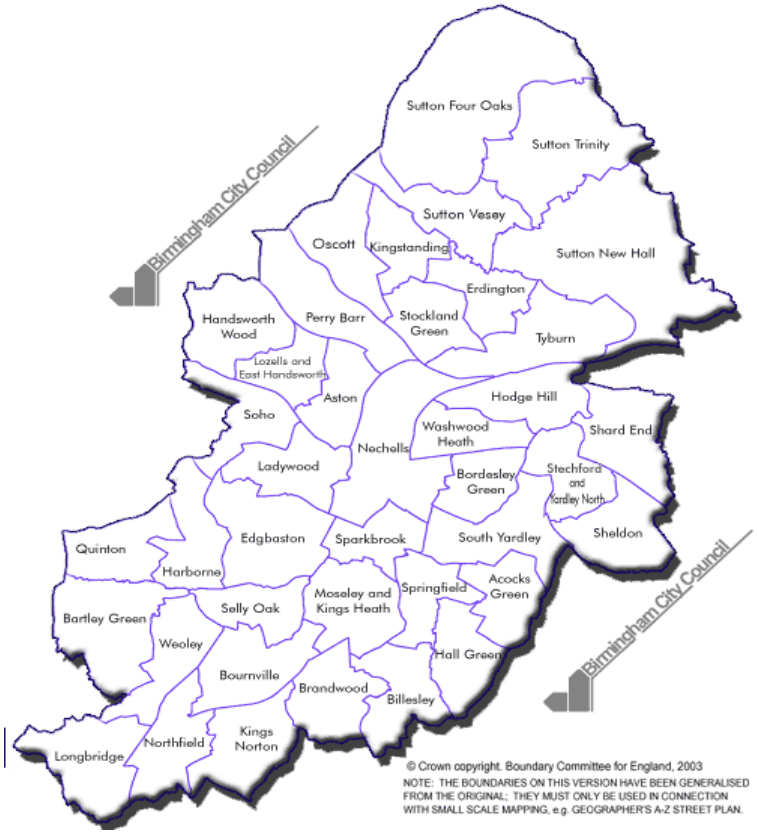
- 9,179 streets (2,436km of road and 4,220km of footway)
- 1,014 Highway Structures
- 95,000 Street Lights
- 1,114 Traffic Signal Installations
- 76,000 Highway Trees
- Co-ordinates and deals with 130,000 utility and highway works each year
- 500,000 vehicles in and out of the City every day

Street Scene Layout

Typical Street Scene

(items included in scope are highlighted)



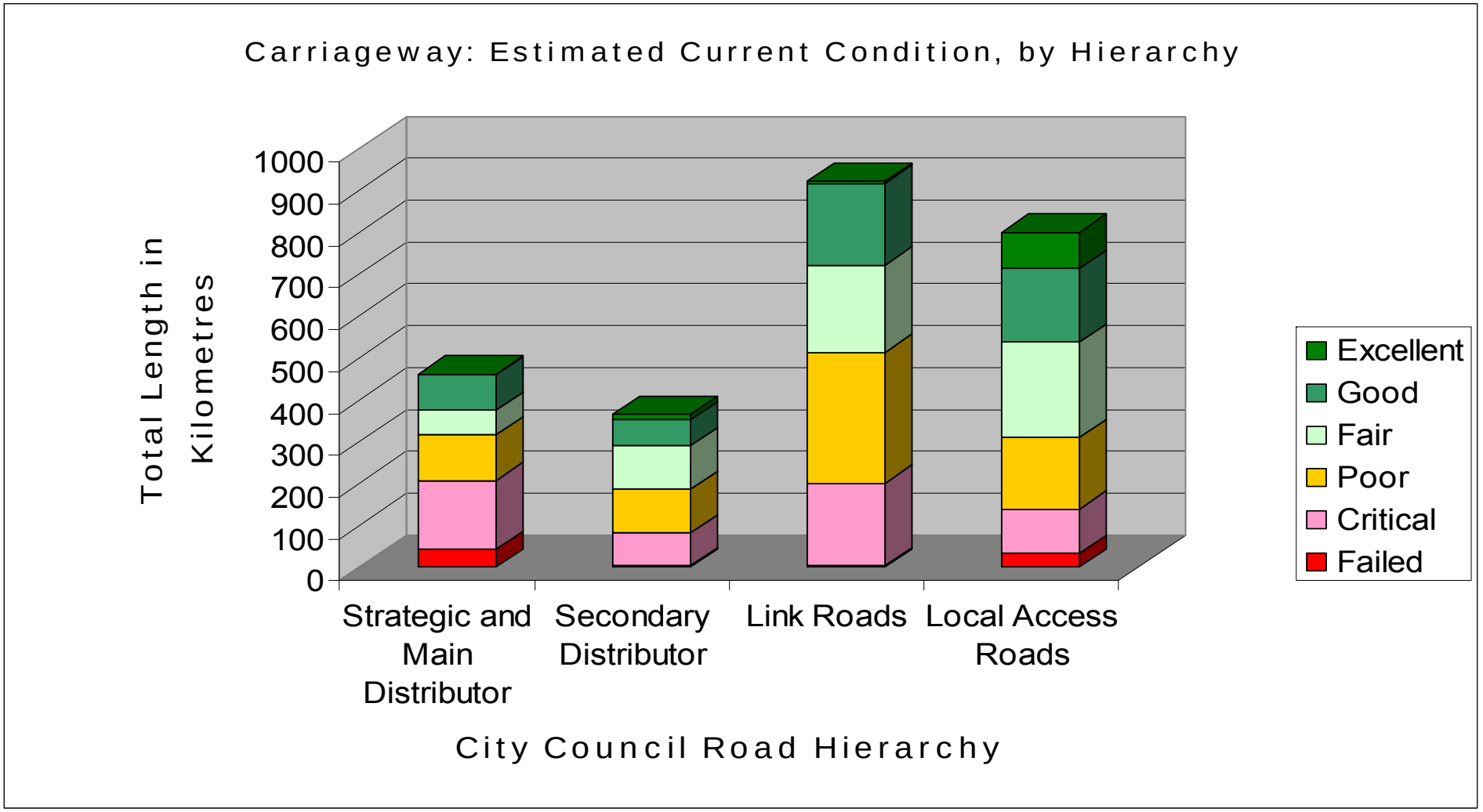


Business Need

- Birmingham has the most accessible city centre in the UK of any outside of London
- From a policy perspective, the City Council wishes to ensure the current highway network is capable of providing an acceptable service
- The current condition of the highway network is incapable of providing an acceptable service
- Objective testing confirms the rate of deterioration of the road network is increasing
- The condition of the highway network is vital to Birmingham continuing as an economically successful international business city

The Need for Investment

- Concern by public over the standard of the roads and highway infrastructure
- Results of national condition surveys
- Legal duty to provide Best Value
- Encouragement to develop services in a wider context as part of a street scene approach within the City
- To address a current backlog of capital maintenance on bridge repairs
- To include a major capital investment in the City to improve the street lighting stock


Carriageway: Estimated Current Condition, by Hierarchy
Total Length in Kilometres
1000
900
800
700
600
500
400
300
200
100
0
Strategic and Main Distributor
Secondary Distributor
Link Roads
Local Access Roads
City Council Road Hierarchy
Excellent
Good
Fair
Poor
Critical
Failed

What are the Key Issues?

- Birmingham's businesses depend on an efficient transport system to transport people and to move goods, services and labour needed to work successfully
- It is essential for the prosperity of the City and the West Midlands that the transport infrastructure can adequately meet the increasing demands placed upon it
- The City Council recognise that transport problems can contribute to social exclusion and that the provision of a good quality network is a first step towards overall improvement
- The highway network in its current condition cannot provide an acceptable service and there is a need for a major cash injection

Consequences of Not Investing

An absence in investment will frustrate policy objectives, lead to reduced levels of service and a deteriorating environment.

Examples of the reductions in level of service are within:

- Environment
- Economy
- Safety
- Accessibility
- Integration
- Non delivery of Best Value

Existing BCC Service Provision

- City Council current annual Budget for activities within PFI scope is approx. £38m
- PFI Grant from the PFI credit will more than double this resource level
- City Council has agreed to maintain internal resource level as a condition for accepting PFI Credits
- Approx. 350 staff within scope

Birmingham's Highway Maintenance and Management PFI Project

Birmingham City Council

Domenic de Bechi

Project Co-ordinator

Highway Maintenance and Management PFI

HIGHWAYS

BIRMINGHAM
GLOBAL CITY LOCAL HEART

Birmingham's Position

- Need for a cash injection to bring the highway asset up to condition and thereafter to maintain on a life cycle basis
- Consistent with Asset Management principles
- Consistent with Highways Best Value Service Improvement Plan
- Scope extended to include Street Scene
  - Surfaces
  - Street Lighting
  - Bridges, Structures and Tunnels
  - Street Furniture
  - Traffic Management
- Scope excludes new build i.e. capital investment for modifications to highway infrastructure

How the Project was Developed

- Best Value Review of the highway maintenance service in 2000/01
- £50m was needed to rehabilitate the road network to a fair and reasonable condition
- Street Scene Context
- Several project and procurement options considered
- £170+m total Street Service backlog identified

Funding Considerations

- Considered:
  - Internal Capital and Revenue Funding
  - Joint Venture
  - Bonds
  - PFI
- Prudential Borrowing not legal at outset of project, but subsequently considered
- Business Case proved value for money against other funding methods and Internal BCC Scrutiny process concurred

Vision for Highway Maintenance and Management in Birmingham

The improvements realised through the PFI contract will:

- Return the City's infrastructure to an **acceptable standard**
- Significantly **improve the appearance** of the highway network
- Give local people chance to **determine priorities and influence** choice of materials
- Bring real improvements to the **quality of life** in local communities
- Assist in delivering **key strategies and specific objectives** of the City Council
- Benefit all users, help **improve road safety and reduce crime** and the fear of crime

Project Objectives

- **Rehabilitation** of the highway network
- Implementation of an **affordable and sustainable** highway maintenance and management regime
- Policy **flexibility**
- Flexibility to meet the **changing demands** on the highway
- Implementation of Best Value regimes to deliver **long term best value and value for money**
- **Safe passage** (including public and personal safety)
- Reduction in the number and value of **liability claims** against the City Council

Project Scope

- Rehabilitation of the Network
- Highway Management
- Ongoing maintenance
- Operational responsiveness

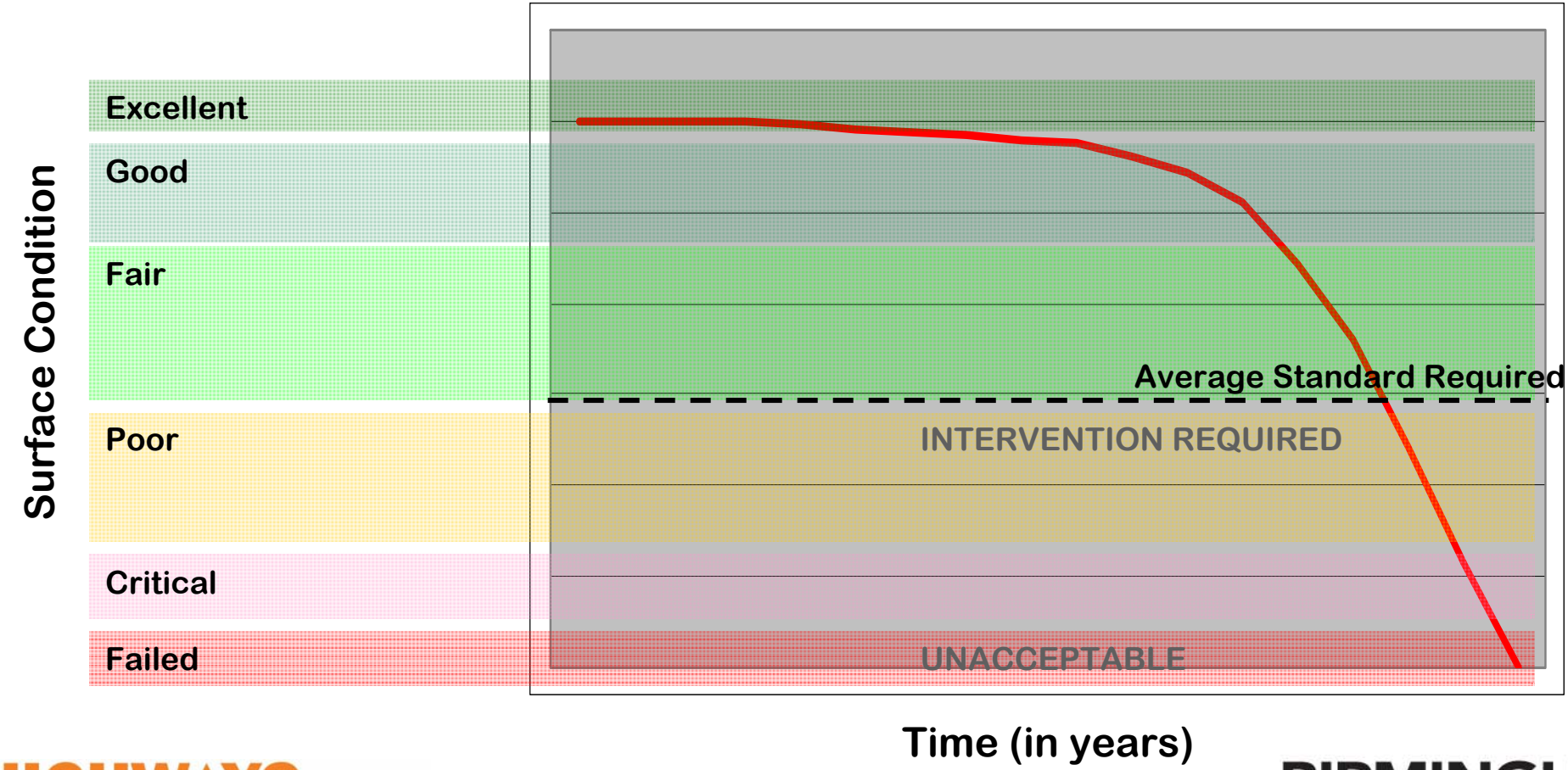
Rehabilitation of the Network

The Core Investment Period includes:

- **Carriageway:**
  - Average condition upgraded condition to "*Fair*"
  - No "*Failed*" sections by National Standards
- **Footway:**
  - Average condition upgraded to "*Fair*"
  - No *"Poor"* or "*Failed*" sections by National Standards
- 41,000 (around half of all) **Street Lighting** columns replaced and light output increased
- Three main City Centre **Tunnels** refurbished
- **Bridges** capable of carrying 40 tonnes live loading
- No **Traffic Signal Controller** more than 15 years old
- UTC refurbished to **UTMC standard**

Asset Management Principles

Example: Road surface condition



Highway Management

- Inspections and assessments
- Street Works co-ordination and enforcement
- Third Party Claims and damage cost recovery
- Traffic Signal management

Ongoing Maintenance

- Programmed Road and Footway Resurfacing / Reconstruction
- Routine Maintenance of Roads and Footways
- Maintenance of Bridges and other Structures
- Street Lighting Maintenance
- Maintenance of Traffic Signals
- Highway Drainage (including cleansing)
- Road Signing and Marking
- Routine and Cyclic Maintenance
- Street Name Plates and Miscellaneous Street Furniture
- Safety Barriers and Fences
- Highway Tree Maintenance

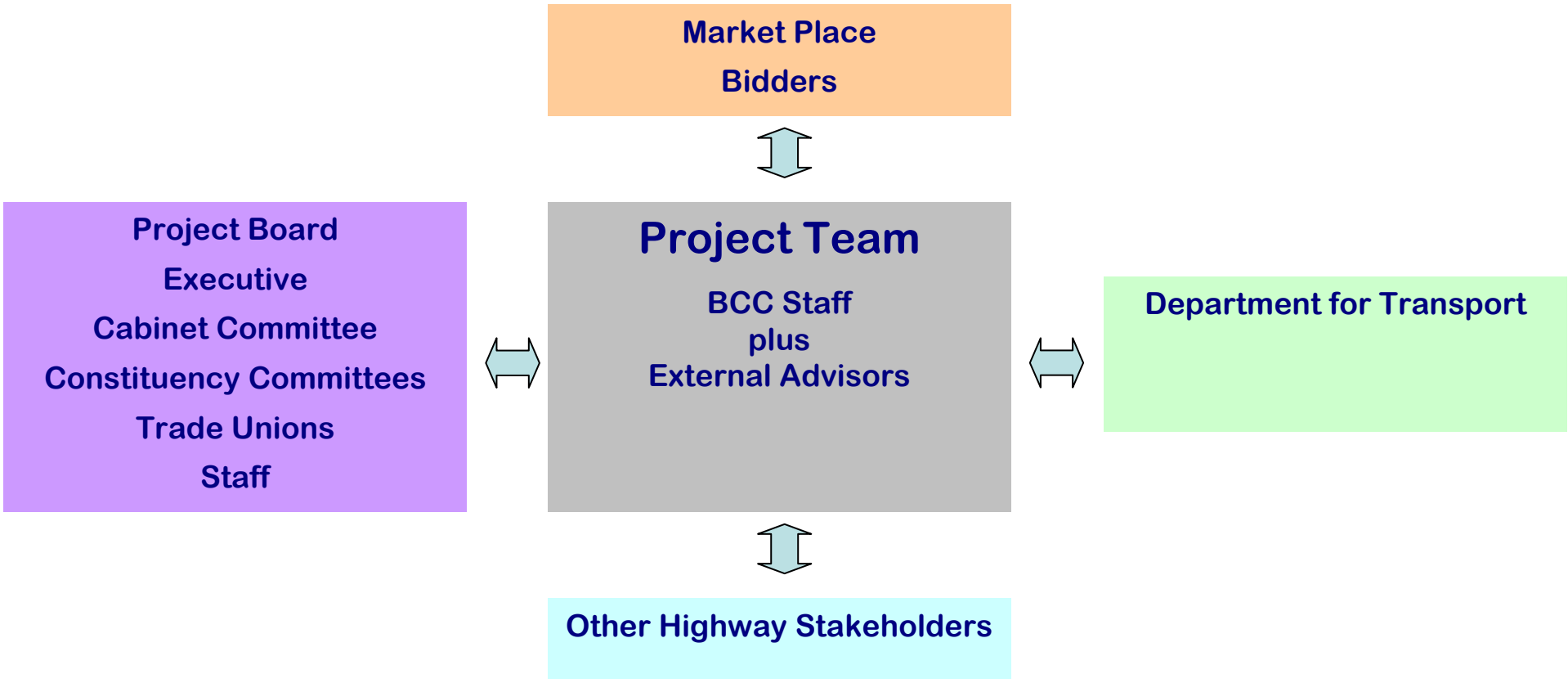
Operational Responsiveness

- Winter Maintenance
- Highway and Civil Emergencies

Major Considerations

- Employment Options
- Data Control
- Delivery Strategy
- Best Value / Continuous Improvement
- Implications of recent legislation (Traffic Management Act)
- Interfaces with other BCC services

Project Interfaces



Project Timeline

October 2003	PFI Credit of £379m approved
September 2007	Additional PFI Credit approved - a total of £588m
August 2009	Amey selected as Preferred Bidder
March 2010	Final Business Case approved and revised PFI Credit of £600m+ awarded
April 2010	Financial Close
June 2010	Service Commencement

PFI Principles

Paul O'Day

Highway Infrastructure Manager

CEng, MICE

Why Choose PFI?

- The City Council's existing budget provision will not address the unsatisfactory state of the existing highway network infrastructure
- Other funding methods were considered but could not provide the same financial incentives:
  - Joint Venture Partnerships
  - In House delivery through supported borrowing
  - Raising finance through issuing bonds
  - Self supported (Prudential) Borrowing
- The PFI approach is the only option that provides the City Council with additional Government Grant or other funds to service capital borrowings

Key Aspects of a Highways PFI

- Asset already exists, it is not an isolated “building site”
- Defined level of service (upgraded asset condition over time)
- Includes immediate and ongoing services
- Asset must remain available throughout contract period (including during upgrade)
- Management of interfaces with other City Council functions
- Asset is used (and abused) by large customer base
- ‘Legitimate damage’ to the asset e.g. utilities planned and emergency activity, etc.

How Does the PFI Work?

- It provides a contractual arrangement for the City Council to receive a defined service
- The City Council determines the service required and Service Provider determines how that service is provided and financed
- There is a single monthly payment for the whole service with deductions for non-availability of the defined service (Unitary Charge)
- There is budget certainty
- There is transfer of risks for all “life cycle “ costs to the Service Provider

Doing PFI – Implementation Team

- Starting down the PFI route (or other equivalent process) is not a small activity. You need to be prepared to properly resource an appropriate team of internal and external expertise
- The team needs to be multi – disciplinary
- The team needs specialist support / advice
- You need to provide for all of these within your business case in addition to specifying the service you require on the asset
- Do not underestimate staff consultation

Doing PFI – Highway Assets

- Understand and define the assets within the scope that you have. This includes:
  - What kind of assets do you have
  - How many of each type
  - What is current condition
  - What is condition likely to be at contract commencement
  - Define the standards you require during the concession period
  - What condition you would like it handed back in
- Don't forget that these assets will grow (and shrink) in volume and you need a mechanism within the contract for inventory change

Doing PFI – Other Assets

- Do not forget that you have lots of other assets that are currently used to deliver services within the scope. These include:-
  - Employees
  - Depots
  - Vehicles and Plant
  - External Contracts
- The same criteria of what kind, how many, what condition and handed back criteria are equally applicable
- You need to “place” these assets within the contract framework in such a way as to get value for money
- In addition you need to consider how to you deliver services outside of the scope that are currently delivered using some /all of part of these assets (don’t forget the Emergency Plan!)

PFI – Risk and Insurance

- Risk and asset insurance are not normally valued by Local Authorities and almost certainly are not matched by a cash sum
- Highway Asset not externally insured by Local Authorities
- Asset risk passed to Bidders and therefore Funders will want insurance
- Will be priced into the Unitary Charge by the Bidders; potentially an area where your current cash budget leaves you with a gap
- Third Party claims insurance is significant size; mixture of self and externally funded treatment. Potential for improvement as asset condition is improved

PFI - Affordability

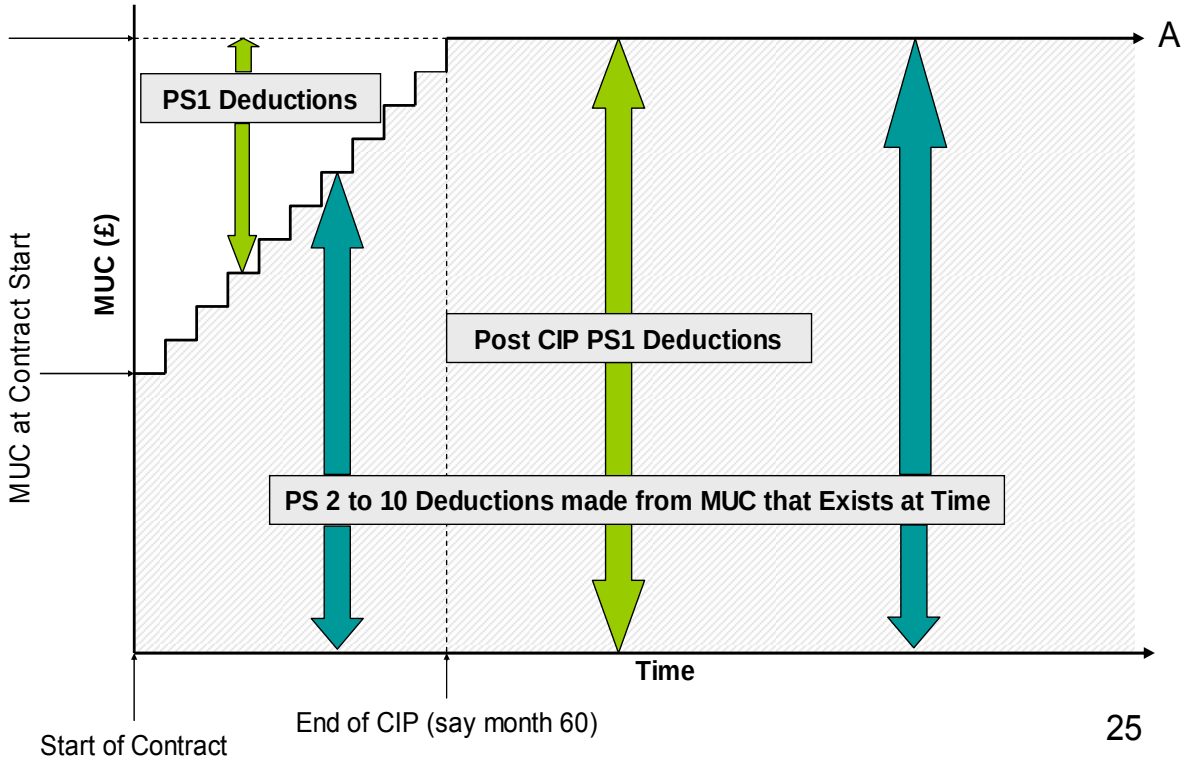
- The approved Final Business Case defines the resources available for the project. These include:-
  - Council's own internal revenue / capital resources
  - Structural Maintenance via LTP
  - PFI Grant
  - Any related income streams
  - Interest on resource balances as a result of cash flow
- Establish an "Affordability Envelope" for the project
- Don't forget : Project = Contract + Client + Retained Costs / Risks etc.
- This will give you a contractual commitment for a long time!

PFI – Payment Mechanism

- Should be linked to the Output Specification
- Single Unitary Charge with deductions for non-performance
- No separation of sums by function
- Timing of payments
- Indexation : Unitary Charge not Cost Base
  - ▲ Price Risk to Service Provider
  - ▲ Certainty for Council if Unitary Charge Index is RPI(X) based
- Mechanism for change within Project Agreement but Payment Mechanism needs to be able to cope with change

Payment Mechanism

Payment Mechanism Illustration – Unindexed.



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PFI - Key Overall Parameters

- 25-year partnership with a Service Provider
- £608m PFI Credit, equating to a total revenue grant of £1.2bn over 25 years (£48.9m per annum)
- Council ring fences its budget for project
- Asset Management approach, based on vfm investment to National Standards:
  - 5-year Core Investment Period – Backlog removal and progressive improvement to National Standards
  - Further 20-year maintenance period to these standards

Contract Documentation

- Required to be in a standard format and compliant with SoPC4 – for PFI credit approval
- **"Project Agreement"** – Legal Document covering issues such as:
  - Definitions, financial model, land/contract boundary, defects, handback, insurance, change, termination etc.
  - (Approx. 100 clauses)
- Agreement is supported by **36 "Schedules".** These include:
  - Schedule 2 - **Output Specification**
  - Schedule 4 - **Payment Mechanism**
  - Schedule 12 – Mobilisation
  - Schedule 18 - Change Procedure
- In Schedule 2 there are 10 "Performance Standards" (PS1 – PS10)

Performance Standards

1. Network and Infrastructure Condition
2. Network Performance
3. Horticultural Maintenance Service
4. Winter Maintenance Service Operations
5. Emergency Responsiveness
6. Safety Performance
7. Network Management
8. Contract Management and Customer Interface
9. Strategic Assistance
10. Authority Working Practices

Service Requirements

Performance Standards content:

Required Outcomes

- Service Delivery Outputs (Output Specifications)
- Performance Targets
- Performance Monitoring to be undertaken
- Payment Mechanism to be applied

CIP: Constituencies

- All Constituencies to be at the same overall average standard of highway condition irrespective of starting point by end of CIP
- Investment profile to be based on consistent standards, with milestones at a Constituency level
- City Centre and Strategic Road Network are separate
- Local consultation and influence on 1-, 2- and 5-year plans
- Constituencies may enhance specification (at extra cost)

Ongoing Maintenance

- National Standards reached at the end of the CIP to be maintained until end of contract
- Full range of asset maintenance obligations:
  - Functioning
  - Safe
  - Available for use
- Management and co-ordination of activity on the Highway
- Programmed capital replacement of roads, footways and lighting continues
- Minimum of 24,000 Street Lighting columns to be replaced from Year 6 to 22

Post-CIP: Constituencies

- Contract monitoring based on delivery of National Standards in each Constituency
- Post-CIP condition maintained for all Constituencies for remainder of contract
- More capacity for a responsive service than at present: Service Provider will have Constituency-based teams
- Service Provider to advise annually on network integrity and safety improvements

Is Asset Management Achieved?

- Strategic Approach
- Optimal Allocation Of Resources
- Management, Operation, Preservation And Enhancement Of The Highway Infrastructure
- Meet The Needs Of Current And Future Customers

Framework for Highway Asset Management, CSS, 2004

Just before I finish!

A few slides to show the diversity of issues to consider as part of Highway Asset Management……

Is this the solution to trenchless technology??

Is this standing water on the highway??

Is this thin surfacing or a form of verge protection??

Would this qualify as non standard street lighting??

The signing and guarding on this work is sadly lacking!!

Will this structure carry Abnormal Loads??

Would this type of Tunnel Refurbishment be difficult to swallow??

Questions