

# Urban Design Studio Unit

**Tutors**

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<b>Students</b>	<b>AAD</b>	<b>MSc</b>
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Each year the Urban Design Studies Unit selects a challenging setting for the fifth year design studio that requires thorough investigative, interpretative, judgemental and creative responses by all students, but also commitment and hard work, insight, passion and bright ideas.

This response to complex urban problems requires a coordinated and integrated response to physical, social, economic and environmental strengths and weaknesses of selected the selected study area that necessitates not only the design of spatial and formal structures but also the development of programmes for the improvement of the socio-economic profile of the area and its environmental quality. The studio is the area for students to formulate a regeneration and development framework and investigate its social acceptability, economic viability and environmental benefits.

This year we worked to create these spaces in Glasgow, in strict collaboration with local community groups, Glasgow City Council and other relevant stakeholders. Robert Adam from Wichester was our Guest Professor, contributing to the illustration and definition of urban design codes as well as the review of students' work on masterplanning and coding. Regular visits from the parties interested helped students keep their investigation and creative work real. Part of the studies also included an experimental EU Funded workshop on design coding.

The course is articulated into four phases:

1. Case analysis. We worked in groups on Govan as part of a larger urban sector of Glasgow along the Clyde, getting to know this area, its links potentials and pitfalls.
2. Urban Design Strategy. We proposed a Strategic and Concept Plan, together forming the Urban Design Strategy, for the improvement of this area envisaging actions and projects that deal with services, mobility, housing, and public realm provision.
3. Block analysis and coding. We work out a complete morphological analysis of three urban blocks that were assigned by staff. The block analysis is carried out by drawing each urban block in two boards and by the quantitative analysis of morphological aspects as they appear on drawing. Once all sample blocks have been worked out and all data is available, students and staff derive from that a synthetic urban design code.
4. Masterplanning and place design. We produced a masterplan for sub-areas of Govan. and deepened our masterplan and coding by experimentally developing the design of streets and buildings in a small part of it.

Getting to know Govan was the first task we were engaged in; the area is complex and substantial therefore we were divided in groups, each with a very detailed and specific task: Drawing the existing city; History and stories; Planning framework; Experiencing Govan; Urban fabric comparative analysis; Network analysis of streets.

Overall, the work of each group was meant to depict a detailed set of objective information on the morphology and physical structure of the built form (current and historic), as well as a more subjective overview of the students', residents and stakeholders' perception. Finally, two groups were tasked with the assessment of Govan's environmental performance, taking into account connectivity and centrality, permeability, wind and sub at the neighbourhood level.

By the end of this exercise, each group had developed an expertise in one of these topics; we then exchanged the information gathered, to make this precious insight the starting point in the next strategic phase for all.

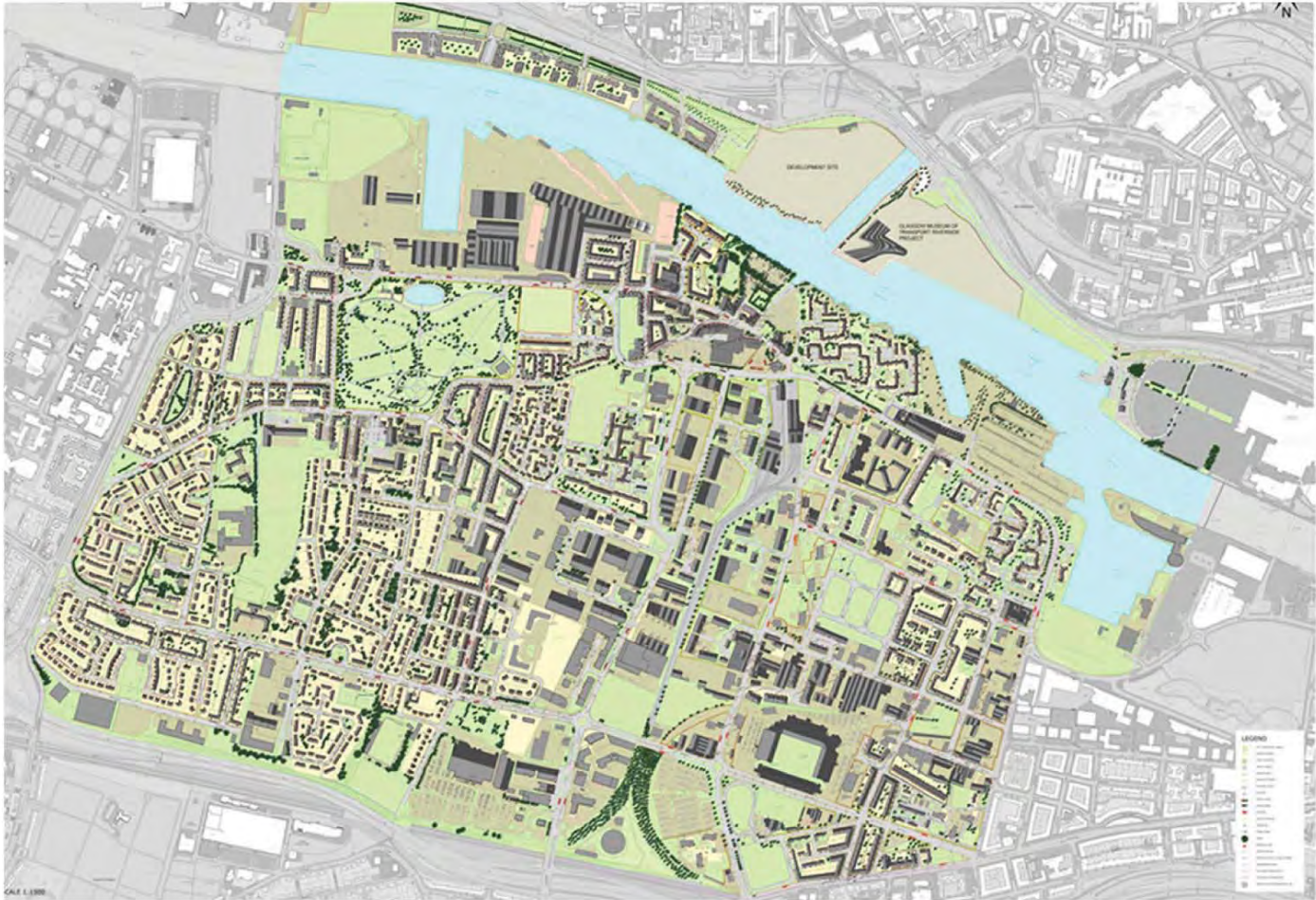
During the analysis, we have learned a number of new analytical, evaluative and representational tools, illustrated in the images which follow.

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# 1. Case Analysis

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'Drawing the existing City' - Analysis

Students

AAD

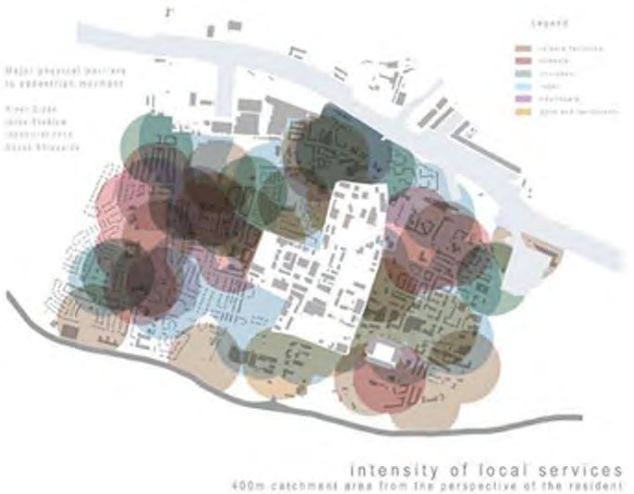
- Mahanim Abdullah
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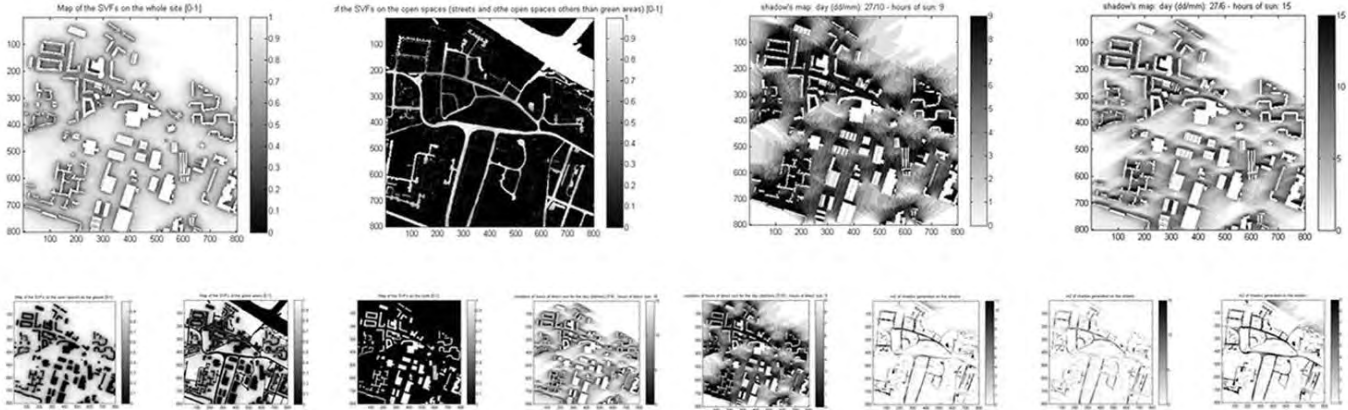


variety of local services  
400m catchment area from the perspective of the resident

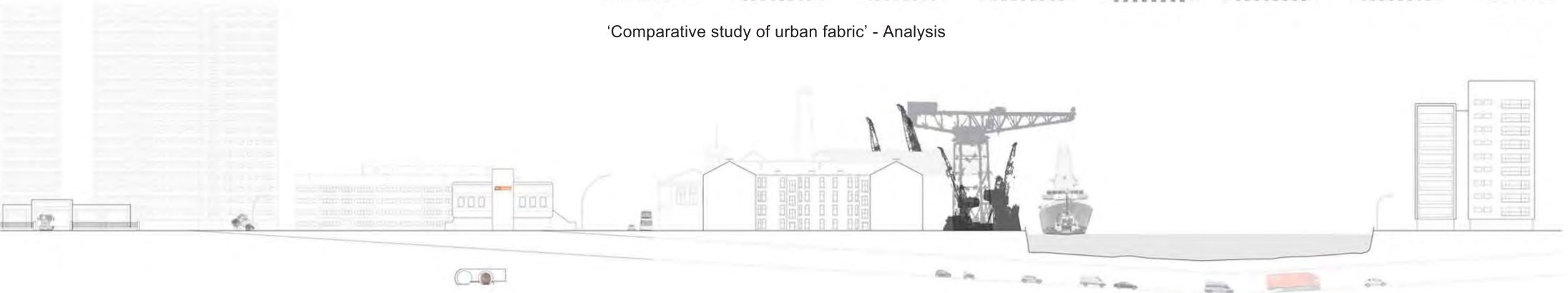


intensity of local services  
400m catchment area from the perspective of the resident

'Planning Framework' - Analysis



'Comparative study of urban fabric' - Analysis



'Histories and Stories' - Analysis

## 2. Urban Design Strategy

### Strategy 2 - Rediscover Govan

Students	AAD	MSc
	Mahanim Abdullah	Gillian Black
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The overall scope of this phase is the generation of strategic programmes for the development and management of transformation in Govan within its immediate context. We strived to develop realistic urban regeneration programmes for Govan and the riverfront in the larger urban context. In particular, on the basis of the information gathered in the previous analytical phase, we formulated conceptual 25 year visions. A Strategic and Concept plan were produced to form the backbone of the strategies.

The aim of the Strategic Plan is to underline the connections between desirable spatial policies and other relevant non-spatial issues, therefore reinforcing the overall awareness of design. The Concept Plan is aimed at detailing the spatial policies identified in the Strategic Plan in an attempt to envisage a better future for Govan. In particular it defines what form proposed strategies will take spatially and how they will be linked with each other and the territory to improve its use and better its performance. From the strategies conceived we will demonstrate the following two examples.

The Rediscover Govan strategy was to overcome the major physical barriers that isolate Govan from the surrounding City fabric and “re-stitch” Govan together internally and improve connections with the greater Glasgow area. Broomloan road was upgraded to be the major vehicular artery through Govan bridging across the Clyde, connecting to the Clydeside express way. A cultural emphasis was placed on development along the river benefiting the local economy, centred around the historical landmark of the Govan Parish Church. The most significant move of the strategy was then to relocate the existing industrial corridor to strategic vacant sites within Govan, along the major barriers such as the M8 and the Clyde tunnel in order to achieve the connection of the two truncated communities within Govan. A study was done to establish what industries could remain and be incorporated into mixed use community blocks, in which the light industries would remain and heavy industries would be strategically re-located. This then frees up extensive areas of land for new development regenerating from an underused industrial wasteland to an attractive, diverse urban environment. A key axis would be the centre of this development connecting a new Gateway to the south of Govan, consisting of a new train station and key mixed use focal point, with the new Transport museum through a sequence of vibrant public spaces and new landmark buildings. Emphasis is placed on the newly created district at the Govan road and Broomloan road intersection to become again a central urban focus for the regenerated historic fabric.



# Strategy 2 - Rediscover Govan

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  - Laura Wallace**
  - Syed Zaidi**

## REDISCOVER GOVAN

Darren Baird, Roberta Bui, Christopher Kelly, John MacLean, Nornawar Laili Nordin, Kumtak Wong, Syed Zaidi

• The aim is to expand the existing built-up area, creating new links in the urban fabric, creating a strong public identity for Govan

• To develop economic zones and create a central, vibrant, accessible and well-serviced area

• To improve the regeneration of communities, increase job investment and housing opportunities

• To provide a wide range of affordable housing of various tenures, mixed in the urban fabric, meeting a strong public identity for Govan

• To improve the connectivity of the local population, a sense of civic pride and sustainable Govan as a city centre attraction

• To address high levels of connectivity through better transport infrastructure

Physical Barriers

Connectivity

Specialist areas

Ecological Network

Closeness diagram

Pedshed and Block Density analysis

Existing Plan

Breaking the physical barriers

Improved Connectivity

Relocation of Specialist Industrial Areas & Train Depot

Ecological Network

Closeness diagram - Improved centrality

Pedshed and Block Analysis

Concept Plan

Proposed Phasing + Strategy

1. Development within 5 years

2. Development within 10 years

3. Development within 15 years

4. Development within 20+ years

Key Sites

Sequence of Nodes

Connectivity - Water links

Strategic Development

Proposed Riverside Development

Strategic Plan

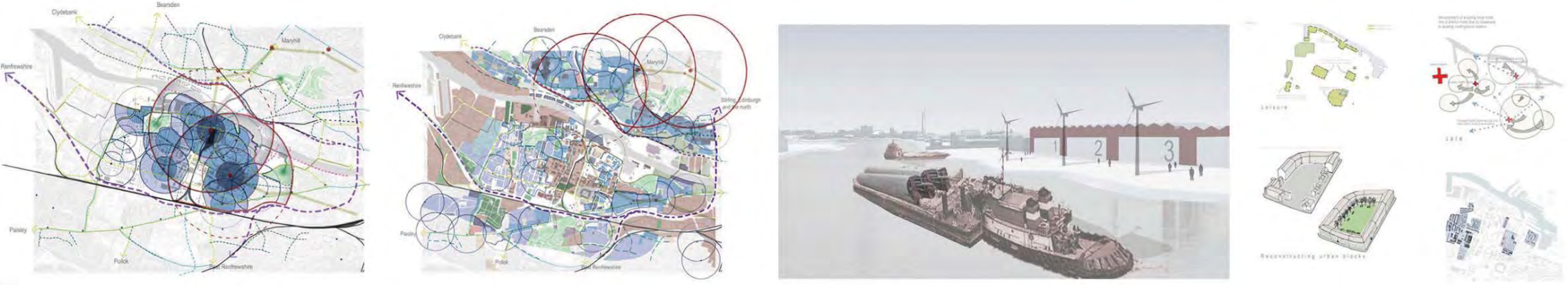
# 2. Urban Design Strategy

## Strategy 4 - Taking Govan back to Work

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Our Group's 25 year vision for Govan derived from three initial topics of research stemming from the Analysis stage and a public lecture given by Raymond Young of the assist program. Raymond Young was key in portraying the image of Govan, in particular during the 1970's, as being in the heart of the shipbuilding industry, a real working class community in the best sense of the phrase. The presentation paired with the research gathered on the current socio-economic conditions in Govan sparked the group's ambition to propose economic longevity. This was inherent in the proposal for a package of regeneration, starting with the adaptation of the existing industry to incorporate wind turbine manufacturing facilities on the Clyde. As the topic of off shore wind farming is of great imminence, with the River Clyde having great proximity to these proposed off shore wind farms, we felt the diversification and phased integration of the wind turbine manufacturing process would be integral in our 25 year vision for Govan.

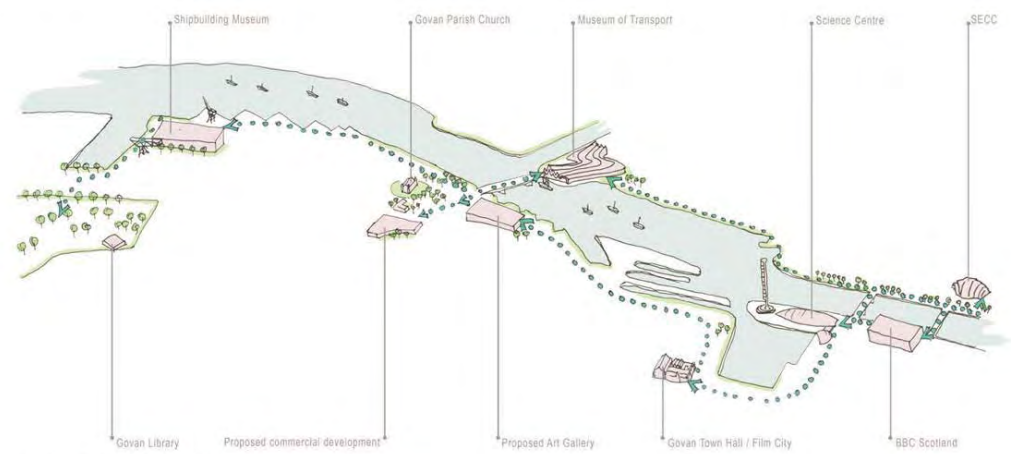
As with any substantial economic move comes the subsequent reaction it has on its surrounding context. Therefore, we began considering the forthcoming stages in the package of regeneration which we deemed most fundamental in the success and implementation of this new economy. The first of these supporting steps focuses on re-developing the district centre, including the proposal for a new transport hub, a bridge link across the Clyde to the new Transport Museum, development of urban fabric from the river edge down into Govan Cross and promote a procession of civic presence along the Clyde. The second step consisted of improving key facilities such as education, healthcare and leisure facilities. Finally, the nurturing process involved the implementation of new residential, mixed-use and commercial development in strategic areas. We also proposed a program of sustainable energy measures on existing housing stock in order to bring up the overall image of Govan to support this ambitious quest for economic longevity once again.



# Strategy 4 - Taking Govan back to Work

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## developing district centre: connections & centrality



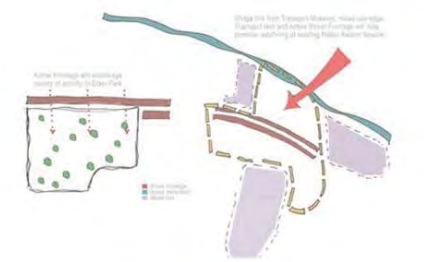
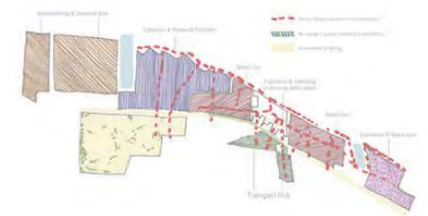
chain of riverfront civic presence



Ecological Connections



Upgrading streetscape



MCA - current

[less] [more] central



MCA - proposed

[less] [more] central



### 3. Block Analysis and Coding

The Block Analysis and Coding phase was based on the principle of compiling Form Based Codes to guide development throughout the masterplan stage. We have undertaken a meticulous 'Block Analysis' comprising of a comprehensive range of urban block types across Glasgow, to understand what makes Glasgow's ordinary fabric so special. This 'Block analysis' together with the understanding of a number of International examples of Form Based Codes enabled us to create a comprehensive Local Urban Code (LUC) for Govan.

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# 3. Block Analysis and Coding

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01 HIGH DENSITY															
01.A Mixed Used															
01.A.a Aggregated															
Cases												Local Urban Code			
Local Urban Code	Cases											Local Urban Code			
min	mean	max	1Aa01	1Aa02	1Aa03	1Aa04	1Aa06	1Aa07	1Aa09	1Aa10	1Aa11	1Aa12	min	max	
			Abdullah	Hweel Ewing	Bufi	Schulz	Pratt	Nordin	Zahri	Black	Zaidi	Russell			
<b>BLOCK</b>															
B01	Area of the block	m <sup>2</sup>	5260.00	7521.00	9713.68	6063.00	8200.00	9166.00	8288.20	5260.00	7111.00	6007.00	6877.00	9713.68	8454.00
B04	Percentage of covered area	%	28.9%	53.8%	94.33	70.6%	47.0%	68.5%	38.9%	50.0%	57.0%	74.8%	94.33	31.12	36.0%
B05	Percentage of permeable area	%	0.0%	24.8%	57.83	0.0%	15.0%	15.8%	36.4%	23.0%	36.0%	0.0%	5.4%	57.1%	22.8%
B09	Mean Num of Stories	-	2.00	3.7%	6.0%	4.0%	4.0%	3.4%	3.8%	4.0%	3.0%	6.0%	2.0%	3.6%	4.0%
B14	Built front ratio	-	0.48	0.86	1.00	1.00	0.99	0.97	0.94	1.00	0.94	0.79	0.80	0.70	1.00
B20	Compactness Index	-	0.20	0.7%	2.63	1.2%	0.44	0.38	0.29	0.64	0.67	0.67	0.58	0.41	0.58
B26	Block Density (D0 per hectare)	D0/ha	13.8%	134.32	345.43	19.8%	155.0%	137.5%	71.9%	132.1%	123.4%	146.5%	345.43	74.7%	124.0%
U3	Uses: Diversity Index (1 Mile)	-	0.0%	0.19	0.7%	0.0%	0.7%	0.0%	0.12	0.0%	0.0%	0.2%	0.2%	0.6%	0.0%
U2	Uses: Ancillary Buildings (*)	%	0.0%	2.34	20.0%	0.0%	0.0%	0.0%	1.3%	2.1%	0.0%	0.0%	0.0%	0.0%	0.0%
U2	Use of Sites	-	4.0%	17.6%	20.0%	17.0%	29.0%	13.0%	17.0%	23.0%	6.0%	4.0%	16.0%	16.0%	27.0%
<b>LOTS (**)</b>															
ave 103	Area	m <sup>2</sup>	303.00	535.97	1059.00	104.07	303.00	351.4%	634.6%	270.7%	271.6%	974.6%	1699.00	607.11	382.8%
ave 115	Width on Street	m	8.93	27.82	65.7%	8.93	13.40	14.72	16.27	16.56	50.42	65.7%	24.87	15.30	15.30
	No of Access Points	-	1.00	7.83	32.0%	32.0%	2.32	1.04	23.0%	1.2%	1.61	6.0%	5.0%	5.0%	1.0%
<b>FRONTAGES   HI   MAIN STREETS (***)</b>															
	Mean Building Height	m	3.50	3.3%	23.0%	3.5%	12.0%	9.0%	9.0%	12.0%	10.5%	9.0%	16.5%	15.0%	12.0%
	Min. Max Building Height	m	2.80	3.5%	5.0%	4.0%	12.0%	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
	Ground Floor Ceiling Height (feet)	m	2.80	3.5%	5.0%	4.0%	12.0%	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
F01	Linear Extension of the Front	m	0.0%	59.2%	105.0%	50.5%	47.0%	47.2%	51.8%	72.5%	0.0%	109.0%	43.0%	49.8%	96.5%
F02	Linear Extension of the Active Front	m	0.0%	41.5%	87.4%	50.5%	47.0%	47.2%	51.8%	72.5%	0.0%	87.4%	43.0%	49.8%	96.5%
F03	Percentage of Built Front / Total Front	%	0.0%	73.5%	100.0%	33.4%	100.0%	100.0%	100.0%	100.0%	0.0%	2.4%	100.0%	100.0%	100.0%
F04	Percentage of Active Front / Total Front	%	0.0%	63.4%	100.0%	1.0%	100.0%	100.0%	100.0%	100.0%	0.0%	83.0%	100.0%	100.0%	10.7%
F05	Mean Extension of Lot Frontages on Street	m	0.0%	28.4%	96.5%	9.52	23.5%	23.6%	12.9%	36.5%	0.0%	82.5%	14.0%	96.5%	96.5%
F06	Maximum Extension of Lot Frontages on Street	m	12.40	37.0%	96.5%	12.40	27.0%	25.0%	14.40	48.5%	49.0%	45.8%	38.0%	19.8%	96.5%
F07	Minimum Extension of Lot Frontages on Street	m	7.94	31.4%	96.5%	7.94	20.0%	22.2%	11.40	29.0%	22.0%	19.8%	27.0%	8.1%	96.5%
F08	Standard Deviation of Lot Frontages on Street	m	0.0%	97.5%	931.0%	1.3%	3.5%	3.3%	1.3%	9.5%	11.0%	931.0%	15.1%	0.6%	0.0%
F09	Num. of Vehicular Accesses	-	0.0%	4.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%	0.0%	0.0%	1.0%
F10	Num. of Pedestrian Accesses	-	0.0%	4.0%	12.0%	4.0%	2.0%	2.0%	9.0%	6.0%	5.0%	0.0%	0.0%	2.0%	12.0%
F11	Num. of Retail Accesses	-	0.0%	6.0%	14.0%	14.0%	7.0%	10.0%	1.0%	6.0%	6.0%	6.0%	6.0%	6.0%	0.0%
F12	Total Num. of Accesses (Veh. + Ped. + Retail)	-	5.0%	10.5%	18.0%	18.0%	9.0%	12.0%	7.0%	5.0%	8.0%	9.0%	9.0%	8.0%	13.5%
F13	Ratio of Building Height/Street Width	%	0.14	1.14	3.42	3.42	1.04	0.54	0.60	1.0%	0.9%	0.14	1.82	0.9%	0.9%
Prevailing Public/Private Transition (***) Desc. None, Direct access None to Gt Western Road/Change of level, greenery, etc. No barriers.															

'Local Urban Code (LUC)' - Block Analysis and Coding



'Foundation Masterplans' - Block Analysis and Coding



# 4. Masterplanning and Place Design

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With detailed analysis, strategic development frameworks, block analysis and coding as a background, we have moved on to the next phase, the masterplanning of a selected area of our frameworks. These areas, studied individually, are particularly challenging and interesting portions of our plans for Govan, on which we wanted to focus in detail.

The masterplanning stage is composed of a number of related tasks – the Foundation masterplan, the Draft masterplan and the Local Urban Code. Whilst Foundation and Draft Masterplans follow each other, the LUC is to be intended as a guide to their development. The LUC gives the parameters to use in terms of density and urban structure, and was compiled from the Block analysis and the study of International Codes done in the preceding phase.

The Foundation Masterplan is a detailed investigation of one portion of the strategies; it illustrates what the intentions and aspirations which were drafted in our strategies mean on ground; how projects and changes can become part of the urban form, how the current Govan needs to change in terms of density, connections, links to become permeable, safe, sustainable. In particular, FM illustrates in detail areas of change and areas of regulation, street hierarchies and a first stab at block density.

Outcomes of the Draft Masterplans have then been used as a basis for an international Workshop sponsored by the EU, meant to design some of the blocks in detail, using the LUC as a driver.

The Draft Masterplans followed the Foundation masterplans: they involve the detailed design of the blocks (fronts, open and built up space), as well as landmarks and special buildings, and the design of the public realm. This is a complex exercise that takes into account rules in traffic calming, but most of all tries to achieve a safe and enjoyable environment where the local strengths are embedded in new development, to respect and enhance the character and meaning of the area.



The masterplan adopts two previously conceived strategies in which through collaboration we have formed a partnership in order to combine these key ideas and enhance the quality of the 25 year vision for the regeneration of Govan. The aforementioned strategic ideas have been taken forward and are now inherent in the current masterplanning process. These main aspects of the masterplan incorporate the regeneration of the Helen Street industrial corridor to provide an attractive, diverse urban environment and improve Govan's existing internal connectivity. This involved an in depth study on the strategic relocation of existing industry within this zone to peripheral sites along major physical barriers i.e. the M8 Motorway, the Clydeside Expressway, the Clyde Tunnel and vacant land within close proximity to existing industry outwith this central corridor. This process also took into consideration existence of light industrial activity in which we as a partnership agreed could remain and be integrated into mixed use urban blocks. Before implementation of the major proposals for this area, the existing railway depot would have to be relocated and the access railway tracks removed to an alternative and equally accessible location derived through discussions with SPT. The removal of this existing infrastructure and relocation of the industry/depot paves the way for the most prominent urban gesture in the masterplan which incorporates the introduction of a North – South cultural axis connecting the new Transport museum with a new proposed railway station located in the southern gateway of the masterplan. This railway would be located along the southern edge of Govan and connects onto the Paisley – Glasgow line thus improving accessibility on a regional scale. Another improvement, on a regional scale, is the adaptation and extension of Broomloan Road across the River Clyde connecting onto the Clydeside expressway and into Glasgow's west end.

Our masterplan responds to the carbon reduction targets set by the Scottish Government by 2020 through the proposal for the adaptation of the existing shipbuilding industry with the phased integration of a wind turbine manufacturing plant. The introduction of this new economy comes great benefits on many levels. For example, the energy generated from the off shore wind farms would aid in the reduction of carbon emissions on a national level. However, we have identified a key opportunity in the form of a Bio-Mass/Bio-Gas power plant which would bring benefits on a local level through the provision of CHP supplying existing and proposed development within Govan. This would also result in the wind turbine manufacturing plant, being a major anchor tenant, having the potential to be a 100% renewable energy system.

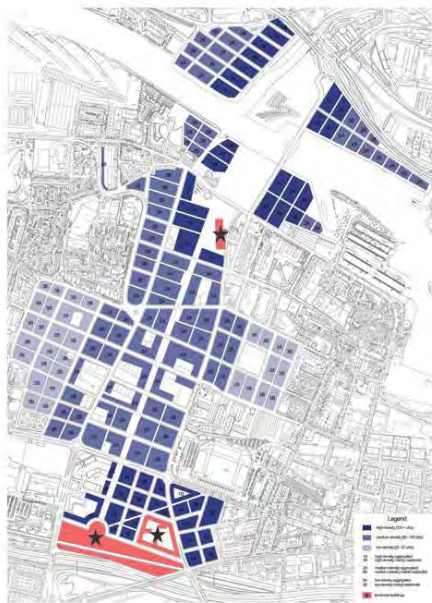
Students

AAD

MSc

Mahanim Abdullah  
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 Raymond Brown  
 Roberta Bufi  
 William Ewing  
 Mark Feeley  
 Christopher Kelly  
 Da Mariana Laia  
 Sarah-Jane Laverick  
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 Fiona Murphy  
 Nornawar Laili Nordin  
 Kirsten O'Hare  
 Delia Schulz  
 Elizabeth Smith  
 Kumtak Wong  
 Elissa Wylie  
 Zarith Abu Zahri

Gillian Black  
 David Howel  
 Gareth Jackson  
 Yasmin Jilaihawi  
 Duncan McLean  
 Ross Middleton  
 Lindsay Pratt  
 Peter Russell  
 Victoria Smith  
 Leroy Thompson  
 Laura Wallace  
 Syed Zaidi

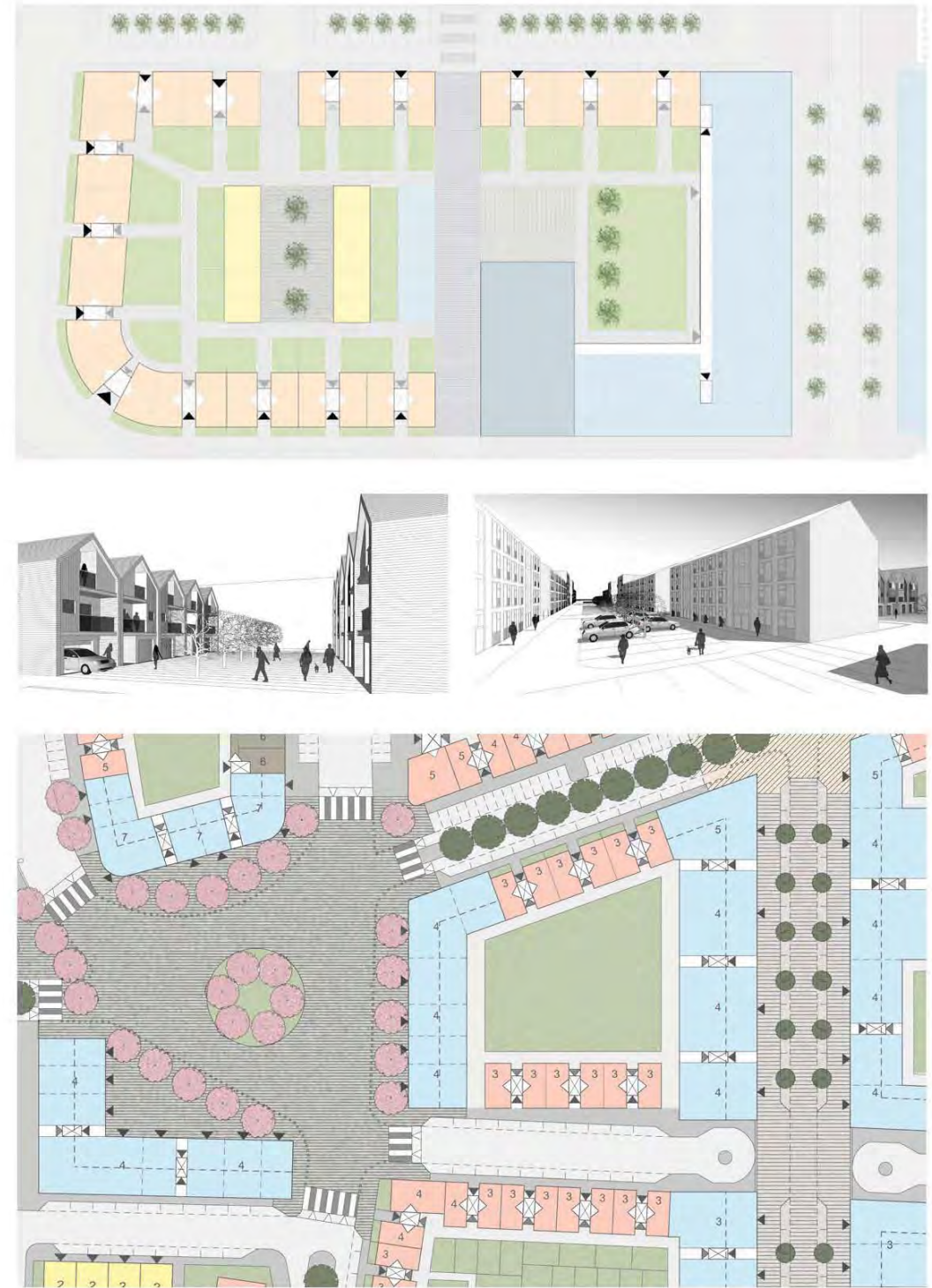


'Foundation Masterplan' - Masterplanning and Place design

'Draft Masterplan' Masterplanning and Place Design



'ESUA Workshop' Masterplanning and Place Design

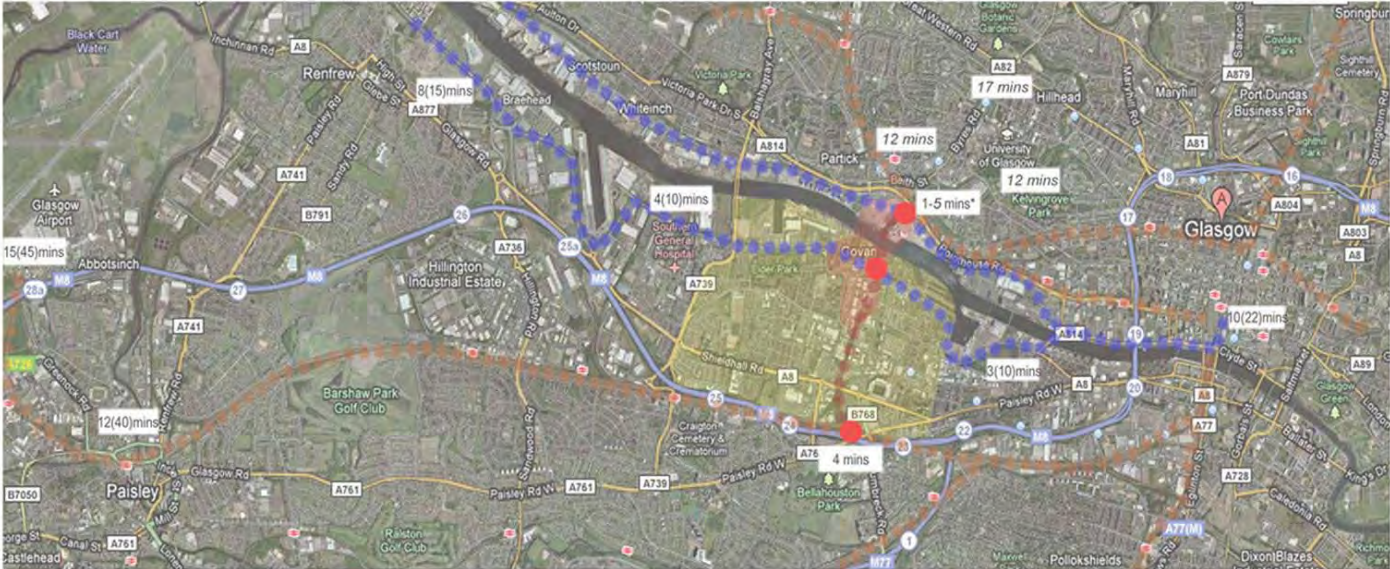


# 4. Masterplanning and Place Design

Students	AAD	MSc
	Mahanim Abdullah	Gillian Black
	Darren Baird	David Howel
	Raymond Brown	Gareth Jackson
	Roberta Bufi	Yasmin Jilaihawi
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	Mark Feeley	Ross Middleton
	Christopher Kelly	Lindsay Pratt
	Da Mariana Laia	Peter Russell
	Sarah-Jane Laverick	Victoria Smith
	John MacLean	Leroy Thompson
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	Elizabeth Smith	
	Kumtak Wong	
	Elissa Wylie	
	Zarith Abu Zahri	

The masterplan has evolved from the analysis and strategic concept stages of our Govan project and aims to develop the ideas of reconnection, repopulation and re-energising Govan through key activity generation. This is supported by high-density, human scale mixed-use redevelopment on the basis of transit-oriented development. The three key moves are providing maximum public transit accessibility linkage for local and tourism benefits, the development of the Govan Market Building at the heart of Govan's historic core to generate activity and the redevelopment of Helen Street industry and (longer term) the Riverside Estate for high-density, human scale family-sized housing.

Govan Masterplan Area - Public Transit Connections & Travel Times



	Govan Study Area		Clyde Fastlink Routes (proposed) - North Bank (Ph. 1), South Bank (Ph. 2)		New Transit Interchange/Halt
	Masterplan Area		Strathclyde Rail Network (existing) plus link to Glasgow Airport (proposed G.A.R.L. to be revived)		
			Light Rail Link (proposed) - linking Rail Network (new halt at Ibrox) with Fastlink Network (halts at Govan & Transport Museum) and Partick Interchange		
			Travel Times from Govan Cross Interchange in minutes (existing time where route currently exists) <i>Walking travel time in italics via new footbridge</i>		

## Transit Aspirations

1. Fastlink routes and Light Rail Connection link Govan to Clyde Waterfront developments and suburban and main-line rail network. This provides direct linkage to Glasgow Airport, Prestwick Airport and Gourock cruise-liner and islands connections as well as West & East coast mainline routes.
2. New Clyde riverboat connections with Govan Wharf pontoon within 200m of new Govan Interchange (Subway, Light Rail connector, Fastlink bus, bus) provides further transit option. Private vehicles guided into Govan to sub-level parking structures (from urban main streets of Govan Road, Helen Street & Broomloan Road to encourage footfall within Govan centre and use of multiple transit options.

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