

WOLFSON **ECONOMICS PRIZE**

MMXIV

FINALISTS' SUBMISSIONS

COMPENDIUM OF
NON-TECHNICAL SUMMARIES

Introduction

The 2014 Wolfson Economics Prize attracted 279 entries. On 4 June 2014 it was announced that five of those entries had been selected as finalists for the top prize of £250,000. The finalists were:

- **Barton Willmore**, led by James Gross
- **Chris Blundell**
- **David Rudlin**, URBED (who went on to win the top prize)
- **Shelter**, led by Toby Lloyd
- **Wei Yang & Partners**, led by Pat Willoughby (Wei Yang were then joined in the final round by Peter Freeman, who became a co-author).

Finalists were then asked to revise and expand their submissions, and re-submit them for judging.

Within their revised submissions finalists were asked to include a 2,000 word Non-Technical Summary. This document is a compendium of those summaries and is designed to be a quick and easy to read reference source for readers seeking a quick overview of the finalists' proposals.

The Summaries are presented here in the above order and in exactly the same form as they appear within the full-length 25,000 word submissions (and thus the page numbering is discontinuous). The full submissions are all available individually on the Wolfson Economics Prize website. The submissions also contain, in most cases, substantial Appendices which feature a range of interesting supplementary material. If the proposals set out in these Summaries spark the interest of the reader, a read of the full submission is strongly recommended.

A number of finalists drew on additional contributions from other experts; full lists of those contributors are provided in each of the submissions.

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Wolfson Economics Prize
London, 3 September 2014

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www.wolfsonprize.org.uk

AND ONLY WHEN, THEY ARE CREATED BY EVERYBODY."

JANE JACOBS, 1961

WOLFSON
ECONOMICS PRIZE
MMXIV
FINAL SUBMISSION

BARTON
WILLMORE

JANE JACOBS, 1961

**BARTON
WILLMORE**

NON TECHNICAL SUMMARY

BIG PROBLEMS REQUIRE BIG SOLUTIONS. BRITAIN NEEDS TO BE BUILDING SIGNIFICANTLY MORE HOMES, NOT JUST NOW, BUT FOR THE WHOLE OF THE NEXT GENERATION AT LEAST, AND, WERE IT POSSIBLE, YESTERDAY TOO.

In a March 2014 review of the Government Economist Kate Barker's 2004 Report into House Building and the Planning System, the Home Builder's Federation concluded that 10 years on, we have spectacularly undershot national housing targets by 954,000 homes, equal to the total number of households in Latvia¹.

With the Department for Communities and Local Government (CLG) forecasting an additional 5.8m new homes by 2033, the current shortfall of circa 1m homes per decade would require somewhere between the total number of households in Denmark and Switzerland² (circa 3m homes) to catch up. And then we need to keep going.

That's why our solution advocates a national transformation for Britain. The creation of enough new Garden Cities to meet both demand and shortfall. All in the idiom of a place that can continue growing organically for generations.

Most politicians, economists and development industry commentators would appear broadly in favour of Garden Cities as part of the solution. But few within the planning and house building fraternity seem to consider that their impact, even if they were to go ahead, would be widely felt. Other nay-sayers such as Simon Jenkins and Lord Rogers would have us reject the notion outright, citing the regeneration need of our existing cities as priority^{3 & 4}.

The public however have come out overwhelmingly in favour of New Garden Cities – 68% of 6,000 persons polled agree that building new Garden Cities would better protect the countryside from development than the alternatives.⁵

So who's right?

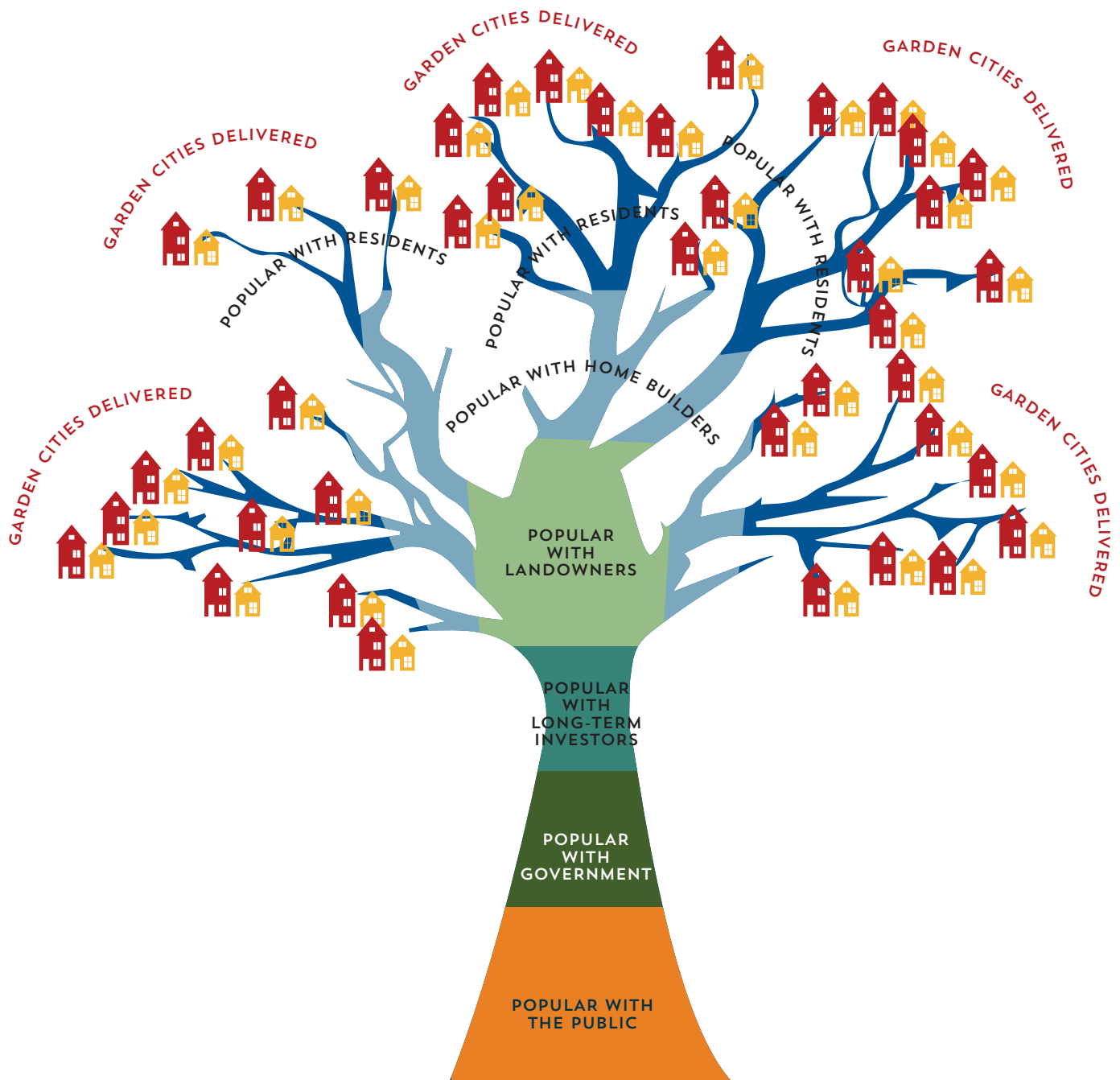
If executed at the right scale, in the right numbers and right locations, following historic settlement patterns and local vernacular, and not slavishly obeying some pre-determined concept, there is room to accommodate all of the above views.

This is especially important given the 3rd criteria of the prize question: "How would you deliver a new Garden City which is visionary, viable and popular?". Popularity in the context of the Wolfson Prize question is surely the ultimate arbiter of success. Meaningful popularity is more than a notion, it's something that must be known or felt.

Firstly we have begun **a national pro-development campaign**, by commissioning YouGov to undertake our own polling, investigating the 16–25 age group (The Young Minds) and recommending steps to reveal the true dangers associated with NIMBYism, and the opportunities new development will have on them and future generations.

The outcome of this campaign, which already includes creatives, marketers, advertising experts and psychologists, has been specifically set up to channel public concern against short-sighted prejudices and make Government take note.

By default, Garden Cities need to become **popular with Government itself**. By this we don't mean the current posturing on the topic, name-dropping already consented schemes, re-designated as Garden Cities. Popularity with Government for us means, driven by public opinion, launching a serious investigation into the broad locations of suitable areas for a **national wave of new Garden Cities**. This could be a National Spatial Plan, as per our initial submission, but equally presented as guidance for local authorities, mayoral candidates and others to bring forward Garden Cities from a grass roots position.



OUR GARDEN CITY MODEL

NON TECHNICAL SUMMARY

Steps to deliver new Garden Cities (including shortcuts allowing both national scalability and local initiatives) are captured in our 10-point ‘route map’ adapted from our Primary Submission.

The relationship between Government and our **3rd market for popularity is about scale**, or more precisely **scalability and certainty**.

These are the two factors necessary to achieve **popularity with the patient capital vital to delivering** of Garden Cities in meaningful numbers.

Industry insiders suggest upfront promotional costs of Garden Cities may run to around £5m per instance. Even for the big investment houses, as purely private sector initiatives, these are sobering numbers unless accompanied by the certainty of Government support and the offer of a scaleable initiative where lessons learnt can be re-applied across the country.

Thus patient capital is acquired by means of a **trade** between Government support for substantial numbers of Garden Cities on the one hand (our submission suggests there may be national scope for 40 such cities), and the circa £250m peak debt which in our estimations is required to finance the critical infrastructure for every new Garden City of 50,000 homes.

Scalability and patient capital combine to provide the leverage and funding required to source land and sites in meaningful numbers. However this means ensuring that the Garden City model is **popular with landowners**.

This is perhaps one of the most critical aspects of city delivery. A Garden City project might stack up on paper, but in the absence of willing landowners the chances of it becoming a reality are slim. Our view is that the much discussed (by the TCPA and others) return to Compulsory Purchase Orders (CPO) as the primary mechanism for land acquisition is a poke in the eye for localism, landowners and local popularity. Instead we have constructed our viability model on the basis of **offering fair value to everyone**, but **best value to those who are prepared to share the risk**, investing in the legacy of the city. This means allowing those who may wish (or need) to exit the Garden City Enterprise early, to do so, but offering those who stay greater tax incentives (through reduced 10 year trust charges or inheritance tax) and an overall increased return of a further 100%.

Furthermore we recognise that there can be no ‘one size fits all’ solution to delivering Garden Cities. We have identified some of the larger institutional and historic landowners who might be interested in maintaining full control over the new city as it develops, but more likely the composition of land owners will be families and others whose interests may not always align.

As a consequence of this, and in response to the intricate nature of the British landscape, we have developed several (not exhaustive) models of Garden City typology.

Recognising the prevailing perception of **a new settlement as a stand-alone place**, our submission, both in terms of financial modelling but also with respect of the physical design of the template, focuses on this for phasing, funding and economic profile. However we consider other models to be equally valid in the right places. Hence in addition to the stand-alone model we have examined:

Extension – Already identified around major UK towns and cities in our Primary Submission, we recognise that extensions adjoining existing settlements can benefit from shared services, existing character and strategic infrastructure. These might be delivered in the form of a single adjacent settlement, or through a network of extensions, creating a ‘green mantle’ around an existing host town or city.

String – We are making a strong assumption, based on market economics, that most landowners when offered the choice of up-front land value, plus a significant return to be taken early or late depending on circumstances (our financial model assumes a split between these), will opt into the Garden City opportunity. We propose to use existing legislation to give Garden City Mayors, through the vehicle of Local Garden City Commissions, similar powers to Development Corporations and therewith CPO powers. However for reasons outlined above we have reservations around the popularity of this in the context of a national model for some 40 new cities. The ‘string’ model allows for the compound impact of a city to come forward through several connected centres, and is adaptable, to both environmental and landowner constraints.

NON TECHNICAL SUMMARY

Regeneration – Since 1947 there have been 27 New Towns in three waves of development. These generally shared characteristics of low density, wide roads, poorly connected and badly designed town centres. If popularity is key, and rebalancing the population brings urban regeneration effects, the New Towns, with their continued public sector ownership and near universal absence of ‘beauty’ are ideal candidates for regeneration as new Garden Cities. These may be smaller than their stand-alone compatriots but could result in earlier delivery, if meaningfully reinvented according to Garden City Principles.

Finally, as a consequence of the strands of popularity above, our model responds to the Garden City residents. We see this functioning as a collective, and that with time, both new and existing residents (commercial, residential, public sector – all persons living or working in a place) in the Garden City will come to identify themselves as such. We are confident in this for a number of reasons:

1. **Garden Cities are good for Britain.** We estimate the economic impact of a new Garden City of constructing 50,000 homes/115,000 persons to be approximately £69bn (see Step 7) based on the economic impacts of construction.
2. **Garden Cities will create new jobs in the thousands.** We know there is a construction skills shortage (<http://www.citb.co.uk/news-events/uk-construction-skills-time-bomb/>), but Garden Cities can develop skills well outside this sector. Construction is, however, the catalyst. Skills and training will be on hand to ensure at least one job per household is provided, plus we estimate that home working and other more flexible forms of employment will mean this figure is exceeded.
3. **Garden Cities will be affordable.** Who is not concerned how future generations will find a foot on the housing ladder given the current housing shortage? Asking the land owner for patience in exchange for an increased return allows the savings to be passed on to future residents. We have assumed property discounts in the Garden City of 20%. This can be topped up by shares in the city for those who can afford it but there is no obligation to invest if it's out of reach. On top of this our model assumes 10% larger properties than industry averages, offering more home for less investment. Reduction in risk for investors and house builders means more funding for the quality, size and specification of the build but with margins intact, making the proposition attractive to the home builders too.
4. **Garden Cities will be green.** The green credentials of the Garden City will extend to the existing populous. Our model factors in capital works to existing residents (based on the stand-alone model) to increase the energy efficiency of existing homes in or near the Garden City at zero cost to existing residents. New homes will meet Code for Sustainable Homes Level 4 as a minimum and green utilities will be provided and funded from 60 year concessions on the basis of low energy consumption. Furthermore the Garden City will be green in a conventional sense. In another **trade**, we consider densities in urban areas can be increased in exchange for resident managed green space – green beach huts (park-huts) for weekend recreation, and relaxation in a public green, managed by community associations whilst reducing the cost of parkland maintenance.

Our delivery mechanism for all of the above is simple – use the public voice to convince Government we **need to build our way out of the Housing Crisis**; allow for nationally-guided, locally-championed locations for growth to come forward, independent of the existing system of Local Plans, instead electing Garden City Mayors pioneering efficient teams to de-risk projects and involve land owners and communities through the mechanism of the Local Development Order (LDO); promote the de-risked schemes to a market looking for scale and certainty, **leaving the value of the land in the deal** wherever possible, passing this discount onto the future residents, giving them a vested interest in the place to earn a dividend themselves whilst improving the return for the patient land owner and institutional investor alike.

Viability, spatial and economic modelling in this submission are based on ‘live’ examples. The intention is to more fully explore these places as genuine Garden City candidates as part of a first wave. However a full list of over 40 locations has been created to inform the content of this study.

1. http://www.hbf.co.uk/uploads/media/Barker_Review_10_years_on_-_24_March.pdf
2. Private households by Household Type, Measurement, Country and Year; UNECE Statistical Division; Accessed August 2014.
3. <http://www.theguardian.com/commentisfree/2014/mar/17/ebbsfleet-garden-city-george-osborne-homes>
4. <http://www.bdonline.co.uk/rogers-rejects-call-for-more-garden-cities/5021586.article>
5. Wolfson Economics Prize - Garden City Polling; Populus; June 2014

WOLFSON ECONOMICS PRIZE 2014

Charthills Green –
a Garden City in the
Garden of England.

Chris Blundell

Final submission, August 2014

1. Non-Technical Summary

Visionary

The proposals are based on an updated interpretation and reworking of the original Garden Cities model, with high quality designs based on design codes approved by local people. They introduce a paradigm shift in the way that large scale development is perceived through a new focus on design quality and sustainability, informed by engagement with the local community. Learning from international versions of garden cities is absorbed to improve sustainability.

There is no attempt to dictate the design, which should be a product of extensive and detailed engagement with local people through Enquiry by Design. However, in order to demonstrate the vision for a new garden city in mid-Kent, key aspects of local character and distinctiveness have been identified and inform proposals which reflect and respect the best defining qualities of the area, forging a new vernacular looking forward as much as celebrating that which is familiar and comfortable.

Architects and developers will be chosen through competition with work awarded to those whose proposals and experience most closely reflect the guiding ideals of the garden city. Designs which celebrate locality and community will prevail over mass market styles.

The city will become the magnet once again, but this time for (a) new employer(s). This will be a new city with a diverse and talented population including young wealth creators, people who need rapid access to London for work, and experienced third age households. Companies will be drawn here by the joint attractions of talented people, a high quality and sustainable community, affordability and access to London. To borrow a phrase, “If you build it they will come”.

This will be an inclusive and sustainable mixed tenure development providing for the needs of a cross section of local people, including affordable rented, market rented, shared equity and self build options as well as a wide range of open market sale homes. These would be set within a series of interconnected walkable suburbs where the car is accommodated but public transport, cycling and walking celebrated.

Historic field patterns will shape the development into definable neighbourhoods. The hedgerows which now define fields will in future define neighbourhoods, each with their own architectural identity, and with sustainability integrated in the form of neighbourhood allotments, play areas and the like. The hedgerows will thus shape the development at a local level while sustaining their own eco-system. Healthy lifestyles will be easier and safer, and seen as the natural choice.

Sustainability will be embedded in the construction phase. Design codes which emphasise common characteristics support the use of modern methods of construction for high quality “engineered” housing. A sustained high volume production over a 30 year development period would encourage the development of a manufacturing facility, and a training academy for both modern construction and traditional craft skills. This would be ideally placed to support the development of other garden cities, including two others promoted in Kent, and also the London regional market. (Figure 1).

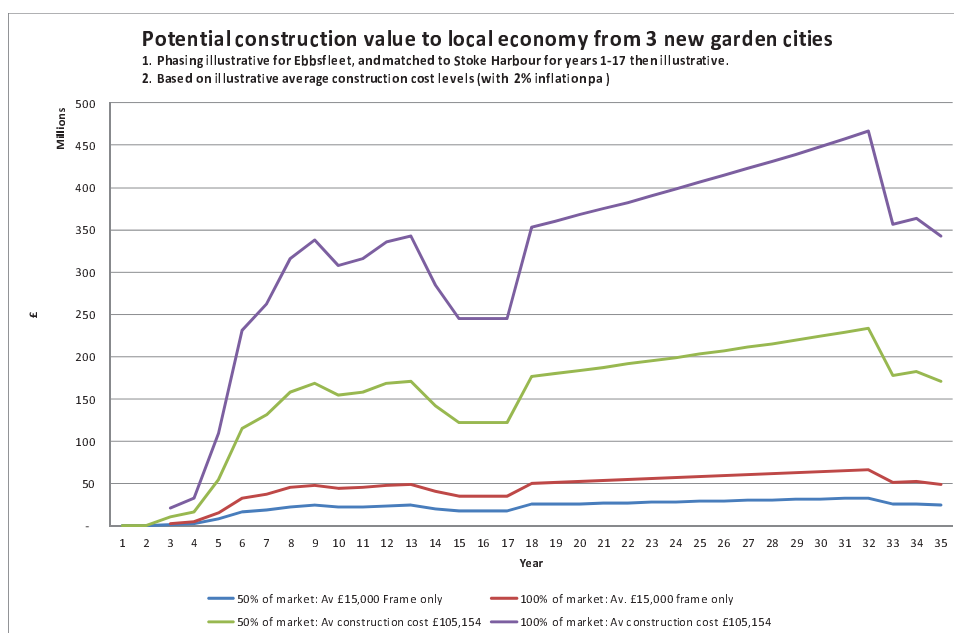


Figure 1: Potential construction value to local economy from 3 new garden cities

Economically Viable

Established funding and delivery mechanisms would be used wherever possible so that risk is minimised. These are proposed to be extended to improve delivery prospects without the uncertainty of major new legislation or funding mechanisms, each of which could add time, risk and cost.

A Garden City Development Corporation (GCDC) is proposed as the planning and delivery co-ordination body. This would take the form of a Community Interest Company (CIC) to benefit from established and proven company structures from the commercial sector while ensuring that its activities are directed towards public interest and all surpluses distributed for community benefit. A Garden Cities Task Force is proposed so that the cost of developing model structures is borne once, freeing individual GCDCs to concentrate on planning and delivery. Land acquisition (including CPO), local planning (within an approved Masterplan) and infrastructure provision would be devolved. The LEP would integrate GCDCs into local commercial and government networks.

Land acquisition would, wherever possible, be by agreement, with initial compensation at a ten times multiple of agricultural value, plus recovery of fixed costs of plant and equipment on the land. The original landowners should also be entitled to share in the uplift in value consequent on development, but on a deferred basis through overage agreements. Government is, however, recommended to act to set clear parameters for statutory compensation in respect of hope value.

Acquisition of previously developed land (residential or commercial) should also take place at a (lower) multiple of current use value. Statutory compensation limits are low compared to development value but a pragmatic solution would be to offer voluntary compensation at more realistic levels which could be taken into account in the event of any CPO required. This way compensation equitably shares the surplus from development without compromising the statutory compensation scheme for major infrastructure projects.

Funding the infrastructure would require access to long term capital and so access to PWLB loans (at preferential rates through the LEP infrastructure route) is proposed. Access can be organised through a Local Authority who would on-lend but as this involves an assumption of risk, which may deter some local authorities, it is proposed that CICs be permitted to borrow direct from the PWLB. Funding could also be sourced through local Bonds which would provide long term certainty while engaging local people financially.

Higher levels of infrastructure will be required at an early stage to encourage and support more sustainable lifestyles, particularly around transport. This burdens the financial appraisal as the costs are incurred early, and accumulate interest, while the revenue stream commences later, and the project would only be expected to return to positive cash flows a number of years into the future.

The new HS1 station may require infrastructure investment from government. More site specific investment, such as a BRT network or the infrastructure for automated vehicles, should be met by the development, and this may involve alternative financing structures such as Tax Increment Financing to fund early years investment.

The attractive nature of the project and the steady long term returns would make financing of the residential and commercial development from conventional sources feasible. Pension funds and other patient institutional investors have already signalled an appetite for the long term low risk investment that will be required. The remaining homes to be produced will be funded, planned and delivered by the market using established mechanisms. The key difference however is that the scale of delivery planned will bring exceptional economies of scale which should enhance margins and improve developer and investor appetite.

The modelling for the financial viability of the development is closely tied to a project plan so that forecasts of cash flows are realistically stated.

Completions are at a rate the market can comfortably absorb, and if needed could be accelerated, which would improve project viability. 40% of the homes are affordable, and at a 50% discount to market prices. The tenure mix includes affordable rent, shared ownership and both self build and custom build and market rented housing. Affordability is demonstrated for both market sales (relative to London), market rented and affordable rented homes.

Viability has been modelled at 15,000 homes, with a number of sensitivities tested. Figure 2 demonstrates payback for a range of scenarios all built from cautious base case assumptions (which achieve an IRR of 8.95% and a long term profit for distribution of over £450m). 20 different scenarios around cost and value, Base Rate and house price inflation relative to CPI have been tested, and apart from a small number of extreme combinations these consistently demonstrate viability.

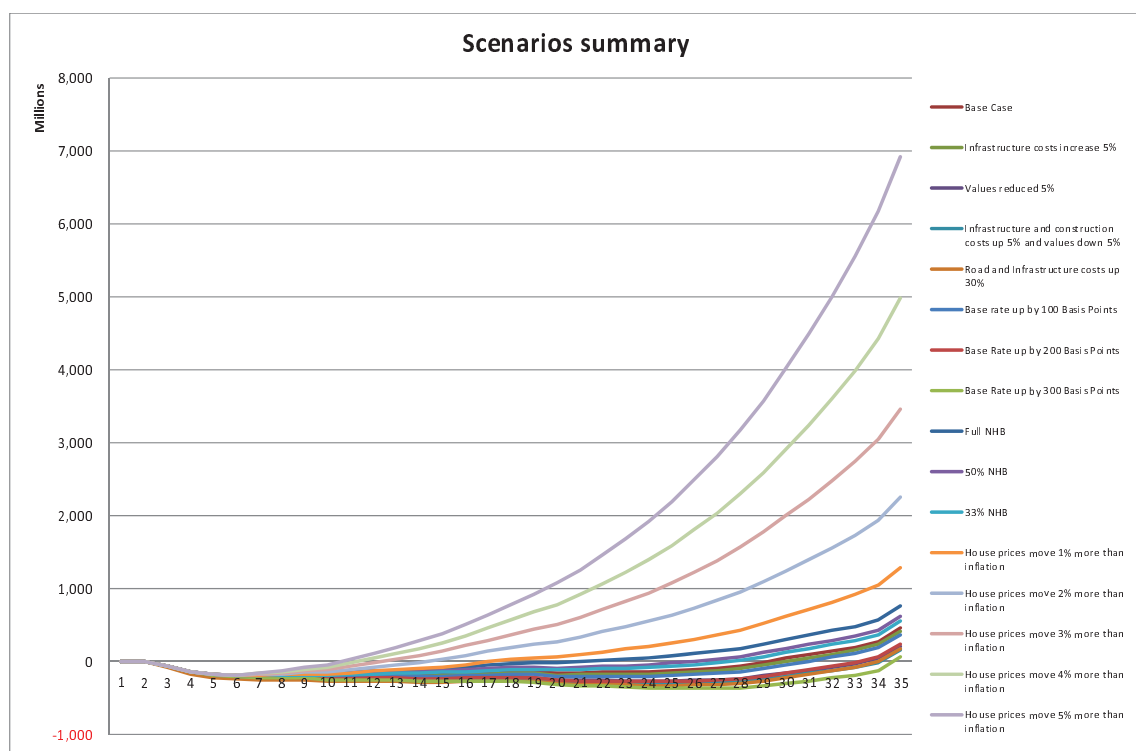


Figure 2: Viability modelling for Garden City of 15,000 homes

No new grants are proposed and the scheme can achieve breakeven without New Homes Bonus, although the longer payback period may increase financing rates and exposes the developer to more external market risk. The development does however meet the test of being economically self sufficient.

Popular

The most important argument is that a place of high design quality and sustainability will be built which will enhance the local area and provide amenities and infrastructure of wider benefit. Designs deriving from all that is perceived to be best in local design, and then taking such elements forward in a family of designs fit for the modern age, would appeal to a wide spread of local opinion and newcomers alike.

Closely allied to this is a wide range of sustainability benefits ranging from very high levels of performance of the fabric of the new city, a committed and generous spirited programme of offsetting and the introduction of transport improvements which benefit the whole of the local community to the demonstrable benefits of reduced land take and impact compared to a more widely spread pattern of development encrusting a range of villages, each of which has a special character.

It is right that the interests of local people are protected so that none lose out, and those whose property is adversely affected should be generously compensated. The local community will have the opportunity to invest in, and share in the success of, the GCDC through a Bond where local investment is at a premium.

In the long term a new resident led Garden City Community Council would be established to provide local services and ensure the quality of the development is maintained. Proposals are made for governance including a structured transition to a resident led GCCC, including the local housing association as a key partner. The viability of the GCCC based on local Council Tax is clearly demonstrated, and the GCCC is supported in providing a range of community programmes and amenities

through cross subsidy from the distribution of surpluses from the GCDC in the form of a “Community Dividend”.

The attractions of the city will be more than skin deep and astute and forward thinking companies will be drawn here by the combination of talented and creative people and the culture they will create in a beautiful, sustainable and forward looking community. The development will also be a significant contributor to the local and regional economy, providing the opportunity for a major new manufacturing operation to support a new engineered house-building factory serving both local and regional (especially London) markets. The impact of three proposed garden cities in Kent has been modelled and the benefits to the local area, and to economically disadvantaged parts of the regional economy, are major as demonstrated in Figure 1 above. Production serving the rest of the south-east could substantially increase this turnover.

Construction has good multiplier effects through local and regional economies. Extrapolation using the most cautious estimates of the economic impact of constructing a new garden city show a major impact on the local economy– see Figure 3. This would be further amplified if related infrastructure improvements were made, such as a new HS1 station.

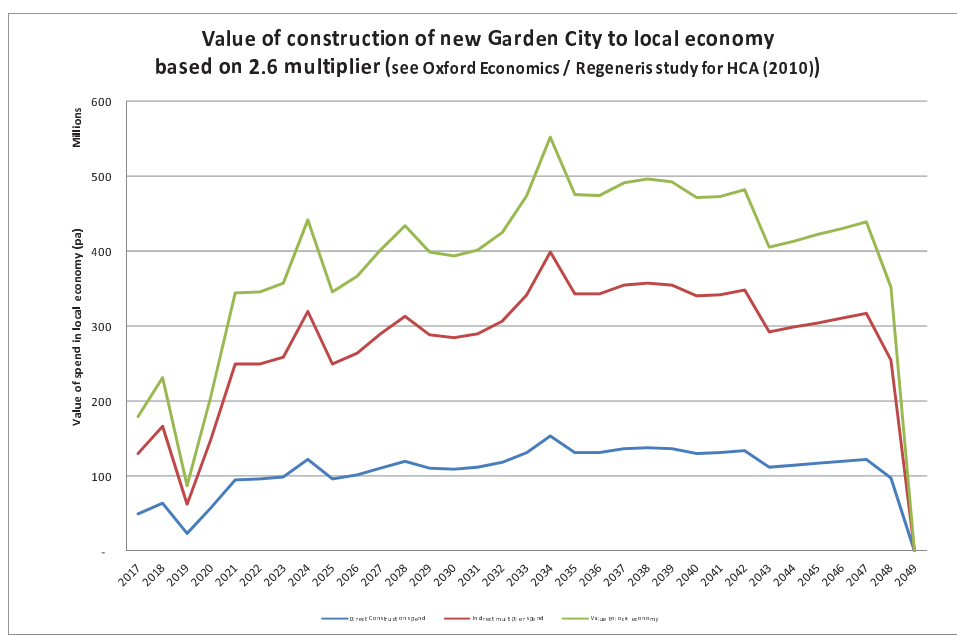


Figure 3: Value of construction of new garden city to local economy

Both of the above charts illustrate the major impact the development of garden cities can have on local economies, creating good quality employment on-site and elsewhere, over and above the employment for long term residents, whether that be through the local, regional or London employment markets.

The dividend for the local area, and for the regional economies, is substantial, and this supports arguments that should prove popular.

Overall, a new wave of garden cities will only come forward if supported by local communities. Support is best demonstrated by a local referendum of the whole of the community.



Uxcester

garden city

Second Stage Submission for the
2014 Wolfson Economics Prize



Summary

We describe in this essay a plan to create a *Garden City* of almost 400,000 people by doubling the size of an existing city. We are proposing a ‘new town’, but it is one modelled on Edinburgh rather than Cumbernauld. As with our original essay we have explored this idea through the fictional city of Uxcester, a place that we have constructed as an amalgam of a number of cities, all places with populations nearing 200,000, with long histories, established institutions and settled communities.

We have continued to use Uxcester in this expanded essay because our proposals are not specific to one place. We have identified at least forty small cities in England that have some similarity to Uxcester and where the ideas in this essay could apply. However, we are also aware that by working in a fictional place we are avoiding some of the complexities, both political and practical, that each of these forty small cities face. The danger is that each will say ‘that’s all well and good but wouldn’t work here’. We have also therefore tested the idea on one of the most contested, and constrained versions of Uxcester in the country – the city of

Oxford. Using Uxcester as cover, we have had a series of conversations and meetings with the councils and local civic and amenity groups in Oxfordshire – where the leader of the County Council has recently accepted that there is a need to build 100,000 homes in the period up to 2031. On the basis of these discussions, which are described in Appendix 1, we have drawn up plans to show how the Uxcester model might be applied in Oxfordshire. It is clear from this exercise that Oxford is more constrained than Uxcester and that its immediate scope for expansion is slightly more limited. However the model still applies and has the potential to unite the main interests in the city to secure the expansion that most agree is necessary.

The quality of what we build is, at its heart, an economic rather than a design issue

The Uxcester model draws on our work as urban designers and economists in the UK as well as the many years that we have spent studying the experience of house building in Germany, Holland and Scandinavia. Over these years we have led many study tours for professionals and politicians to places like Freiburg – which is as good a model as any for Uxcester. This experience is documented in the book *Good Cities, Better Lives: How Europe Discovered the Lost Art of Urbanism*¹ published earlier this year by the late Peter Hall with Nicholas Falk. The book documents how major housing schemes in Northern Europe consistently produce better quality, larger housing, with higher environmental standards, in greater quantities and with far greater spending on infrastructure than we do in the UK. The response of many of the people on our study tours is to despair that we could ever produce development of this standard. This essay suggests something different.

Nicholas Falk leading a study tour to the Vauban urban extension in **Freiburg**





The ability of these countries to build to such high standards and to plan so effectively is not because they have better designers, planners and developers. It is rather because they operate with a different economic and regulatory framework. The quality of what we build is, at its heart, an economic rather than a design issue and is the focus for the first part of this essay. In the UK most of the money and talent in the housebuilding industry is focused on unlocking the land through a contested planning system; on the Continent it is focused on what is built on that land. In this essay we propose a *Garden City Act* in the new parliament to reform our system to create the conditions that exist in Germany and Holland. This will initially be for a programme of *Garden City* building, but thereafter, it could be a model for wider reform.

Key to these reforms is to redirect the huge sums that are invested in the purchase of housing land in the UK into the provision of infrastructure and the development of quality homes. However, large as these sums may be, they are not enough to build an entire *Garden City*. Even the unlocked value of the land is insufficient to build the infrastructure required for a *Garden City* if, that is, we are serious about the word ‘city’. In a modern world where the economy is based on knowledge and technology rather than the manufacturing that supported the new towns, then the idea of a *city* is something that we should be very interested in. Places without major institutions of learning, that are unable to attract and retain the brightest

and best young people, are destined to become dormitory suburbs, however good their garden might be. We have therefore concluded that it is better to graft a *Garden City* onto the strong root-stock of an existing city. This is the basis for our answers to the competition question:

Vision: We illustrate how the city of Uxchester could double its size by adding three substantial urban extensions each housing around 50,000 people. These lie within a zone 10km from the city centre, which is a 20 minute tram ride, but is also of course solidly within the green belt. Our argument is that rather than nibbling into the fields that surround the city and all its satellite villages, we should take a good confident bite out of the green belt to create sustainable urban extensions that can support a tram service and a range of facilities. This will mean building on farmland, but much of the land around Uxchester is not accessible to the public and is of little ecological value. The *Garden City* vision is that for every hectare of land developed another will be given back to the city as accessible public space, forests, lakes and country parks – the garden in which the city will sit. In this way the whole of Uxchester will become the *Garden City*.

The *Garden City* extensions are based upon some simple geometry; tram stops that are within 20 minutes of the city centre, neighbourhoods that are within 10 minutes walk of these tram stops, each of which supports a secondary school and its feeder primary schools, and urban extensions made up of five neighbourhoods

that have sufficient scale to support a district centre and employment uses. The overall plan is described in our Snowflake diagram which we have developed into a set of proposals to show how it would be applied to Uxchester. In doing this we are proposing a housebuilding process in which the *Garden City* creates a masterplan with serviced plots – that we call the ‘trellis’. The plots will then be sold either individually or in small parcels to self-builders, custom-builders and small-scale builders. In this we create a process of incremental development on which the ‘vine’ of the neighbourhood can grow onto its trellis. It is a process that recreates the way in which places like Edinburgh New Town were built.

Popularity: Extending an existing city solves some problems, but might create others, particularly when it comes to winning over the people of the city and its surrounding villages who have not always had a reputation for being pro-

We propose a ‘deal’ by which we lift the threat of development around all of the city’s existing suburbs and villages by concentrating growth in a few large urban extensions

development. We propose a ‘deal’ by which we lift the threat of development around all of the city’s existing suburbs and villages by concentrating growth in a few large urban extensions. This is what we believe the polling undertaken for the Wolfson Economics Prize tells us, that people support the idea of a *Garden City* provided that it is built somewhere other than their back yard. This deal will be backed up with a ‘Social Contract’ which undertakes that the *Garden City* extensions will be built in areas where their impact is minimised. This contract will also cover the creation of 3,000HA of accessible public open

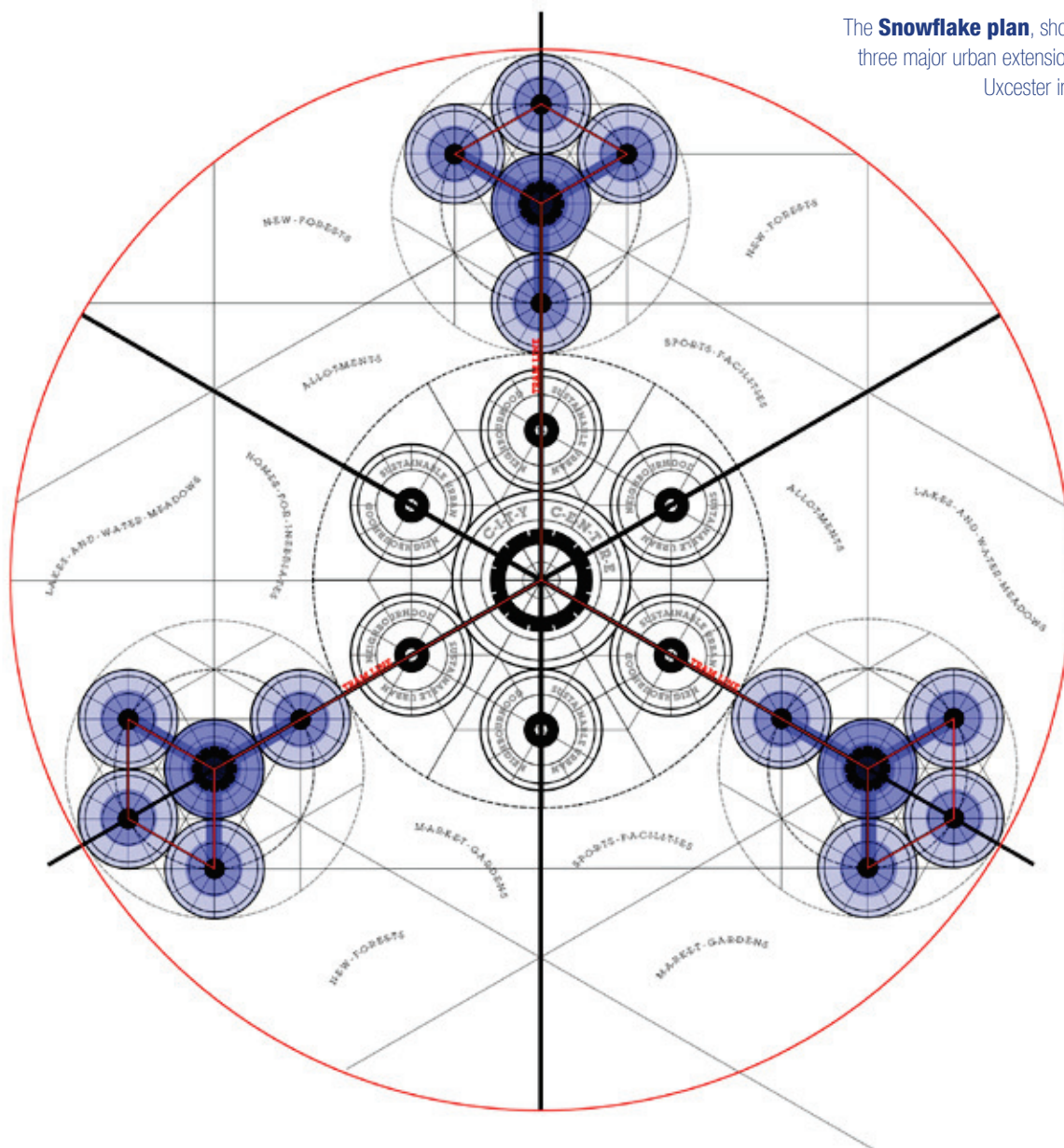
space and investment in new transport infrastructure and city centre facilities to benefit the whole of the community. Our aim is to reframe the argument by making the *Garden City* an attractive solution to a set of problems that the city cannot solve on its own. In this way cities will want to bid to be designated as a *Garden City*.

Economic Viability and Governance: In the absence of large scale subsidy the only solution to the economics of the *Garden City* is what Ebenezer Howard called the ‘unearned increment’. The new *Garden City Act* will provide powers to acquire land for the *Garden City* frozen at its existing use value plus compensation. Because much of the land we are acquiring is in the Green belt, it actually has minimal hope value and we are assuming that we would pay on average £200,000/HA, or £1.16B for 6,000HA. We are assuming that half of this land is developed for just under 70,000 new homes, 1.7M sqm of employment space along with retailing and community facilities. We detail infrastructure spending of £4.1B which together with affordable housing and financing costs means that we will spend a total of just over £6B to acquire and service the land. This compares to an income from the sale of land of £6.27B. These figures are based on today’s prices and make no provision for rising values over the life of the *Garden City*. We have developed a cashflow for one of the three urban extensions over a 15 year period showing that with an initial investment of £50M and a peak borrowing facility of £150M the development is viable without public subsidy.

In the final part of the essay we describe the process by which Uxchester *Garden City* would be built through its seven ages. This starts with a *Garden City Act* being passed by the new Parliament as enabling legislation to create the planning



The **Snowflake plan**, showing the form of three major urban extensions that will make Uxchester into a Garden City



and compulsory purchase powers that each *Garden City* would need. Cities would then be invited to bid to be designated as a *Garden City* in order to get access to these powers. The successful places like Uxchester would establish a *Garden City Foundation* as a partnership between the local authorities, the Local Economic Partnership, the community and other partners. This would be vested with the *Garden City* powers and would be responsible for masterplanning, acquiring the land and acting as planning authority. The land would be vested in a *Garden City Land Company*, the majority shareholder of which would be the *Foundation* but a minority shareholding sold to investors.

We follow the Uxchester *Garden City* as it grows through infancy and adolescence to maturity, middle age and eventually retirement. We describe the investment in infrastructure

and the process by which plots are prepared and sold. Over time the role of the *Foundation* will evolve as it moves from the development stage to the management phase where it will be structured to enable the local community to take on the stewardship of their neighbourhoods.

This is not a new model. It is the modern-day equivalent of the way that the great estates were built, and indeed the way that the schemes visited by our European study tours were developed. The process addresses the weaknesses in the system that have made it so difficult to match the quality of these schemes that we admire on the continent. It is a process that is replicable across the country and together with the continued development of our great cities, has the potential to radically alter the quality and quantity of housing development in the UK.

Wolfson
Economics Prize
MMXIV

How would you deliver
a new garden city which is
visionary, economically viable,
and popular?

Shelter



Executive Summary

After decades of under-supply, we urgently need to build more homes. Shelter and KPMG recently set out a comprehensive plan to get us building the homes we need.¹ A new generation of garden cities is a key part of that programme - so we are delighted to enter the Wolfson Economics Prize 2014. Our proposal has been developed by Shelter and PRP with advice from KPMG, Legal & General and Laing O'Rourke.

At the heart of our proposal is the simple concept of 'the city that built itself': By structuring incentives correctly we show how we can mobilise resources from investors, land-owners, advanced construction firms, self-builders, small businesses, local authorities and local residents themselves – without the need for public subsidy, and without stinting on infrastructure, affordability or quality.

By identifying a genuine site in Medway for our garden city, called Stoke Harbour, we have put our ideas to the test, and addressed the challenges any theoretical proposal must face. We have spoken in depth to the people of Medway, and adapted our proposals to reflect what they told us.

PART I : FOUNDATIONS

Before setting out our vision for Stoke Harbour itself we explore the core economic and delivery principles behind our proposal.

Any new garden city must be founded on economic demand and local consent, and moderated by environmental constraints. The chosen location must reflect a balance of these three factors:

- There must be effective demand for new homes in the functional economic area, which is closely linked to jobs. The proposed garden city must generate a critical mass of employment opportunities itself, but also connect to existing centres of employment via transport links.
- While responding to regional and national demand, a new garden city must also be wanted by local people and consented to by the local authority. It must include real benefits for local people, over and above compensation, such as additional infrastructure up-front or financial incentives, and must be sufficiently popular to win a local referendum.
- Any new garden city must respect environmental constraints. Much of England's land is rightly protected and cannot be developed, and minimising energy use and flood risk should be key considerations in designing a new garden city.

To be self-financing, the development model must capture some of the increase in land value created by the new city.

- The original garden cities of Letchworth and Welwyn achieved this through philanthropic donation of the land, while the post-war new towns did so via compulsory purchase at agricultural prices. Today we need an approach that incentivises land owners to participate voluntarily.
- We advocate a development model in which major landowners co-invest their land into a development partnership, yielding attractive medium to long term returns. The real value of a new garden city will be realised over time and at scale, making co-investment a rational business strategy for large landowners seeking to maximise their asset value.

To deliver a new garden city without public subsidy, substantial private investment must be secured.

- With advice from Legal & General and KPMG we have developed an 'investment waterfall' model, in which each stage of development and population growth triggers the next round of investment, so that social infrastructure stays a step ahead of demand.

¹ KPMG and Shelter, *Building the homes we need*, 2014

PART II : VISION

Based on these foundations, we set out our proposal for Stoke Harbour, a polycentric garden city for which we have modelled the main city in detail.

Location

Applying our location criteria led us to the Hoo Peninsula in Medway. Part of the Thames Gateway regeneration area in the wider South East, the Hoo is currently poorly served by transport, but is ear-marked for improvements and is close to well-connected zones. Relatively easy upgrading would place it 45 minutes from King's Cross and link it naturally to Ebbsfleet Garden City, creating a new regional centre of employment and growth.

While there are environmental constraints on developing the Hoo, our proposed sites avoid protected areas and maximise use of brownfield land around existing power stations and industrial estates. Existing land values are low relative to the South East, and there is a high level of local and regional demand for homes, jobs and infrastructure.



Design

Designed on a human scale, Stoke Harbour will be built to the density of a typical mixed-use European city centre or Victorian English town, with 15,000 homes built over 15 years. With future urban extensions and orbital settlements it will grow to a polycentric garden city of some 60,000 homes.

Key features such as valley water-courses, hedgerows and shelterbelts will be used to create linear parks that link public green spaces: 40% of the total area will be green space.

A tidal harbour will be built out of low-lying brownfield land at the south of the site - avoiding the ecologically sensitive and protected wetlands entirely. Vibrant local neighbourhoods will be built around shops, services and open spaces, clustered in local centres within a short distance of people's homes.

Transport

Our comprehensive transport strategy will produce a step-change in connectivity quickly:

- A shuttle train to Gravesend on the existing freight line.
- A subsidised bus link to Medway.
- Upfront upgrades to Four Elms roundabout that is currently a rushhour bottleneck.

As Stoke Harbour grows, the rail line will be twin-tracked and a new relief road built in the same corridor, linking to the proposed new Lower Thames Crossing.



Homes

The people of Medway told us that they want new homes to be affordable to local people on normal wages. So 37.5% of the homes will be in affordable tenures including shared ownership, and the homes for sale will be priced competitively for Medway. To encourage early movers and foster character, self-build will be a real option for people from across the income spectrum. Specially designed homes for older people will be linked to local services.

Economy

Stoke Harbour will support a thriving new local economy, during construction and beyond. Housing and infrastructure will employ upwards of 1,000 in construction, 150 apprentices and 1,500 in the supply chain. Laing O'Rourke will set up an off-site manufacturing factory employing 350 people and 50 apprentices.

We estimate that Stoke Harbour will generate at least 2,000 permanent jobs in retail, hospitality, communications, real estate and financial services, and an additional 1,000 jobs in public services and related sectors.

Environment

Our proposals seek to reduce the impact of human populations on sensitive areas by incorporating environmental enhancements recommended by the RSPB. Stoke Harbour will minimise flood risk and energy efficiency, making best use of waterways and the existing power stations. A new community energy cooperative will use bulk purchasing power to reduce energy bills for new and existing residents.

PART III : VIABILITY

We achieve economic viability through a partnership model, and the careful phasing of investment and delivery under a detailed business plan.

Development partnership

A partnership structure aligns multiple stakeholders' interests and capabilities:

- Shelter will be the initial promoter of the partnership, identifying and negotiating with potential partners, appointing advisers and raising initial funding.
- We will approach potential co-promoters willing to invest in our vision and provide expertise in the early stages. Reflecting the development cycle, risk preferences and time horizons, the co-promoter's interest will be sold to a core development investor for the construction phase, and then to a long term investor for the post-construction estate management phase.

- We will approach the Church Commissioners (the major land owner on the site) giving them the opportunity to co-invest their land in the partnership, with a call option ensuring they take no planning risk.
- We will engage with Medway Council from the outset. Our proposals create significant benefits to Medway's people and economy including delivering much of the Council's existing capital investment programme for social infrastructure.

Business plan

Rapid build out is central to the growth plans for Stoke Harbour, which averages 1,250 homes per year (4-5 times the current UK average). Balanced phasing is vital to securing investment, while growing a sense of place quickly and avoiding outpacing demand:

- Construction will be in three phases of four years, with regular milestone reviews and constant market absorption monitoring. We will achieve these accelerated build-out rates through careful market segmentation, improved connectivity, place-making and a model for offsite manufacture developed with Laing O'Rourke.

- Social infrastructure and homes will be delivered under a detailed year-by-year growth plan, supported by an 'investment waterfall' that releases investment as it is needed.
- Transport infrastructure is funded upfront by a hybrid debt solution and repaid by commercial rents, business rates from a new Enterprise Zone, some rail-user tolling, and carparking income.

PART IV : POPULARITY

With the agreement of the local authority we will hold a local referendum on our proposal, as the true test of its popularity. Understanding local people's hopes and concerns is vital to winning a referendum, so with kind sponsorship from Legal & General we conducted new primary research with YouGov and BritainThinks:

- Polling, focus groups and a full day 'Citizens Jury' with people in Medway confirmed that there is already majority backing for a garden city on the Hoo Peninsula (54% support/33% oppose).²
- Local people feel that the Hoo is under-utilised and under-served, and would benefit from new homes, jobs and services.
- People in Medway have concerns about flood risk and the direct benefits to them and their family.

Using Shelter's unique insight tool,³ we identify distinct demographic groups and their attitudes, to tailor our communications. This yields a triage strategy:

- Compensate generously the 35 homeowners on the site, paying 150% of the value of their home for people who want to leave, or £100,000 plus expenses for those that want to stay.

- Contain die-hard opponents by addressing legitimate concerns.
- Channel the existing support of the majority and motivate them to vote.
- Convince waverers, by appealing to their aspirations.

Focusing on the tactics best suited to convincing waverers and win a referendum, we tested financial and non-financial incentives on local people in Medway:

- Cash incentives were very unpopular, being perceived as bribes. Even £5,000 per household had a strong negative effect on support. Investment opportunities were not well received either.
- Reductions in energy bills or council tax rebates were popular if perceived as compensation, not bribes. We therefore offer council tax rebates to nearby residents and an energy bill discount scheme throughout Medway.
- The most popular incentives were non-financial, particularly local jobs and locally affordable homes.

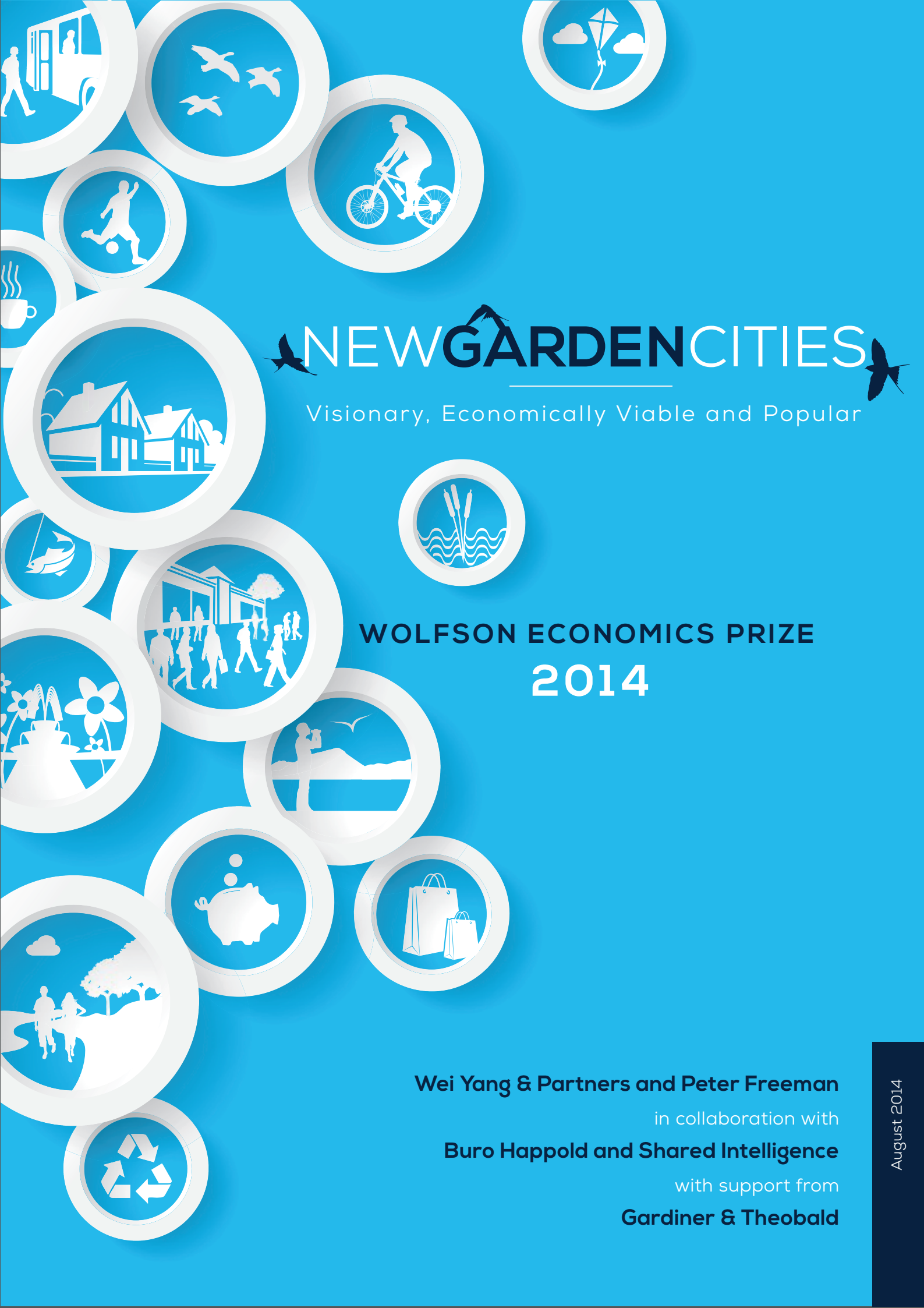
To secure long term support, we will work with local people to masterplan Stoke Harbour, and give them a stake in a Community Trust with its own income and assets.

- We will engage with existing residents in the surrounding area via focus groups, social media, events and ongoing working groups, to ensure genuine local input to the design of Stoke Harbour.
- An asset-owning Community Trust will be created, run by Stoke Harbour's residents themselves, with annual income growing into the millions as the city develops. This will support the community's own priorities, such as additional services or educational grants.

Engaging positively with local people has confirmed aspects of our original proposition, and transformed others. We believe the resulting plan offers an exciting and credible vision that can take a new generation of garden cities from concept to reality.

² YouGov for Shelter, 2014

³ Shelter Housing Insights for Communities, 2011



NEW GARDEN CITIES

Visionary, Economically Viable and Popular

WOLFSON ECONOMICS PRIZE
2014

Wei Yang & Partners and Peter Freeman

in collaboration with

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EXECUTIVE SUMMARY

Cllr Victoria Caring
Leader
Bold District Council
Yourshire
GC1 1BD
England



11 August 2014

Dear Cllr Caring

Bold District and a Garden City

This is clearly a critical time for Bold. In common with many other Local Authorities, we understand the difficult choices that you face in planning for enough jobs and homes to accommodate the forecast growth.

Following our recent meeting, I am pleased to enclose our submission for the Wolfson Economics Prize 2014. We believe that a Garden City is one way of accommodating growth and will allow you to do so without public expenditure, principally by using the land value created. This is a very different development model which will bring many benefits, including financial gains.

Before summarising our approach, I wanted to record our discussion of the current challenges that you face in Bold.

Bold Today

First, you now have an up-to-date objective assessment of Bold's housing requirements over the next 20 years and these will range between 900 and 1,500 homes per annum. You have identified sites which could accommodate around 700 homes per annum but not much more. Your neighbour, High Daring District, faces similar challenges.

Second, your Local Economic Partnership says that many local employers wish to expand and there is strong interest from two global investors; demand could materialise at the higher end of the range.

Third, you are midway through preparing a new local plan and this is very controversial. There are no 'easy' options for allocating more land but you know that, if you do not do so, permissions may be granted on appeal for extensions to your most attractive villages.

Fourth, you want to plan positively to capture the new jobs and provide homes for your citizens, and their children, but you do not want to destroy the very character of your District which makes it so attractive.

Our submission for the Wolfson Prize suggests that a Garden City might be another way of responding to these challenges.

Bold Tomorrow

Our submission starts by explaining why Local Authorities must lead the efforts to accommodate population and economic growth. Even though these are national challenges, it is counter-productive to argue that Government can "drive" a national housing programme or the development of communities to enable growth. The backlash from local communities where growth is "allocated" by Government would simply undermine efforts to achieve housing and economic growth.

Economic Rationale: Locations for Garden Cities

We believe that Garden Cities can contribute to the UK's competitive economic advantage. To do so, they must be located where companies want to locate and where people want to live.

We have identified an Arc of Opportunity from Southampton, through Oxford and Cambridge, to Felixstowe where significant growth is anticipated. Bold District is in this Arc. This is not to say that Garden Cities could be developed everywhere in the Arc, or that Garden Cities should be developed only in the Arc. The Arc is simply a good place to start.

In selecting sites for Garden Cities, Local Authorities should first consider how the Garden City could enhance the area's competitive economic advantage. Second, they should use a new Garden City to strengthen settlement, transport and utility networks and define the right size at which it will do so. Third, Local Authorities should search first for brownfield sites. Finally, sites should be selected so as to use the Garden City to enhance the natural landscape, biodiversity and flood resilience.

Creating a Vision for a Garden City

We have used a generic model of some 10,000 homes/10,000 jobs. The actual size will depend on how the Garden City could contribute to strengthening local networks; few will be exactly this size. Many could be larger, easily providing 15,000 homes and jobs or more; some will be a bit smaller.

Four place-making principles should underpin the overall structure of the Garden City and help to shape its character and identity: "Walkable Neighbourhoods"; a strong Town Centre and Neighbourhood Centres; a generous landscape framework; and a permeable street network. Together, these will create a framework for sustainability, future-proofing the Garden City against climate change and paving the way for new technologies.

How to Deliver a Garden City

We propose arrangements to promote a Garden City which are controlled by local residents, address local opposition, provide appropriate compensation, enable land assembly at fair value and provide long term "patient" capital. This entails a Local Authority inviting Government to create a Garden City Development Corporation and nominating at least half of the Board members using the New Towns Act 1981. Following Local Authority and Government approval of a scoping study, the Corporation would acquire land, through the use of Compulsory Purchase Orders if necessary, and grant planning consents.

The Corporation would select a Master Developer funded by pension funds and/or other institutional investors; this would provide the finance for land acquisition, social and physical infrastructure, and development expertise. Together, the Development Corporation and the Master Developer would establish a Joint Venture Delivery Vehicle to ensure that local interests and investor interests are combined. All community assets, including the shops in the High Street and in the Neighbourhood Centres, would be vested in the Garden City Community Land Trust.

The Development Corporation could acquire land through CPOs at existing use value but our financial appraisals make provision for acquiring land at a substantially higher price, equivalent to prices now being paid for land with limited prospects for development within the next 5-10 years. We propose that existing owner occupiers in the area would be entitled to compensation for loss of amenity; protocols would be approved by the HCA to ensure fairness across the country.

The Joint Venture Delivery Vehicle is essentially a land and community developer. Housing will be developed by private developers, housing associations, custom builders, self-builders, and institutions building for private rent. Offices, factories, hotels and other commercial premises will also be provided by private developers.

We anticipate that a Garden City offering 10,000 homes/10,000 jobs would be developed over 15 years with construction starting in year four. Completions of private and social housing would peak at 1,200 homes per annum as this is a rate that most local housing markets (covering several districts) could absorb. A Garden City offering 15,000 homes/15,000 jobs would take 20 years to complete.

How to Finance a Garden City

We are confident that institutional investors will provide "project finance" for the Joint Venture Delivery Vehicle. We have included in our submission a letter from the CEO of Hermes Real Estate Investment Management (owned by the British Telecom Pension Scheme); he advises that our proposals *"take a realistic view of what would attract long term institutional capital to support Garden Cities at reasonable cost"*.

Our financial model demonstrates that the receipts from the disposal of land for new private housing meet all of the costs of land acquisition, compensation for loss of amenity, parks and leisure, road, cycle and pedestrian networks, utilities, schools and all other community facilities. We have assumed that land for affordable housing will be provided at no cost. We have assumed, cautiously, that land for industrial and all business uses will not generate a capital receipt.

We estimate that all physical and social infrastructure will cost some £342m (excluding fees) and that the Joint Venture would receive an average of £80,000 per plot for 7,000 private housing plots, all at current prices. In many communities in the Arc of Opportunity and elsewhere, current plot values are much higher. Our model allows us to test against variations in a wide range of assumptions.

On the basis of a real increase in value of 0.5%, inflation at 2.5% and a cautious phasing programme, we forecast that the Joint Venture Delivery Vehicle will earn an Internal Rate of Return (IRR) of some 12.48% over 15 years or an absolute cash return of £162m. Today, in many areas in the Arc of Opportunity, and elsewhere, Savills advise that values often exceed £100,000 per plot. At this level, the Joint Venture earns an IRR of 23.98% or £323m. In many areas, plot values are much higher still. These financial returns are available for sharing amongst the Master Developer (and their institutional investor), the Local Authorities, land owners, the Community Land Trust for investment in the Garden City, and Government for investment in regeneration elsewhere.

One of the criteria that the locally controlled Garden City Development Corporation will use when selecting the Master Developer will be the share of the financial returns which they are seeking. It is likely that the Joint Venture Delivery Vehicle will use some form of cascade agreement which will include the terms on which the net net surplus (or super-profit) will be shared.

Popularity: Sharing the Benefits

It only makes sense for a Local Authority to promote a Garden City if local people can see that it will deliver benefits to them. Our approach to developing and financing a Garden City enables this to happen.

First, for those who wish to continue to live in the area, we would compensate for loss of amenity and disturbance from construction. For those who wish to sell, we would purchase property at or above market value. We would also provide preferential access to new affordable housing and entitlements to other incentives. The "Public Offer" should be determined by the Garden City Development Corporation and residents would be involved in planning, specifying the new amenities and setting up the Community Land Trust.

Second, for those in the wider District, the Garden City would deliver new homes, jobs and amenities. Local households would have priority in the allocation of affordable housing and a far wider choice of housing and jobs. They would also gain access to new education, health, leisure, sporting and cultural amenities.

Third, the rate income from business uses in our Garden City would make a net contribution to the Local Authority General Fund of around £2m per annum, probably significantly more. As part of the agreement with the Garden City Development Corporation, the Local Authority would be entitled to a significant share of the surplus. This "super-profit" could exceed £50m and, and perhaps much more. This could be invested by the Local Authority anywhere in the District for a very wide range of purposes. A proportion of this super-profit could also be "top-sliced" by the HCA, to be spent, ideally, on the regeneration of other places within the District.

Garden Cities offer an enduring image of a city or town in a park, with generous landscaped open spaces, a balanced mix of houses for rent and sale, jobs, good shops, schools, and other facilities, in a community with a strong identity. In recognition of this, the promoters of the Wolfson Economics Prize 2014 commissioned an opinion survey to assess whether this image commands popular support. They found significant levels of public enthusiasm and an indication of what communities would most want in terms of benefits. This gives us considerable optimism that we would generate support for a Garden City in Bold District.

Next Steps

Finally, we propose that following on from the Wolfson Competition, stakeholders with a strong interest in Garden Cities should embark upon a programme of taking forward this agenda. We will be contributing to that and, if we win the prize money, we will donate at least £150,000 to the Town & Country Planning Association, the "custodian" of the Garden City vision, to undertake a targeted programme of research.

We hope that you find our full submission of interest. We would welcome the opportunity to present our approach to you and your colleagues to stimulate discussion of the specific benefits of featuring a Garden City in Bold's future.

Yours sincerely,



Patricia Willoughby
Wei Yang and Partners



Peter Freeman