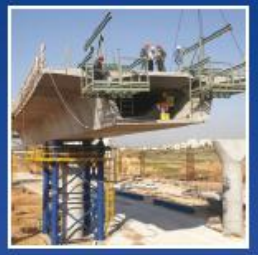
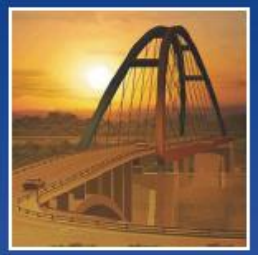
LUSAS
Bridge



Bridge analysis, design and assessment software

Examples of bridge projects undertaken with LUSAS

LUSAS Marketing Department

Major Bridges

Queensferry Crossing

Mersey Gateway Project

Bay Bridge dismantling

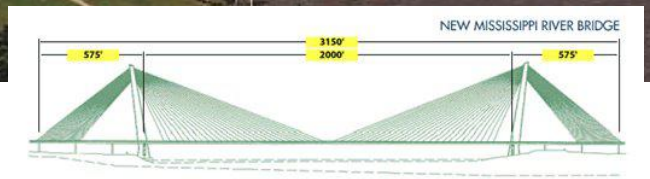
Paseo Bridge dismantling

West Gate Bridge upgrade

Original New Mississippi Bridge

Bridge analysis, design and assessment software

I-70 Mississippi River Bridge



LUSAS

Modjeski & Masters

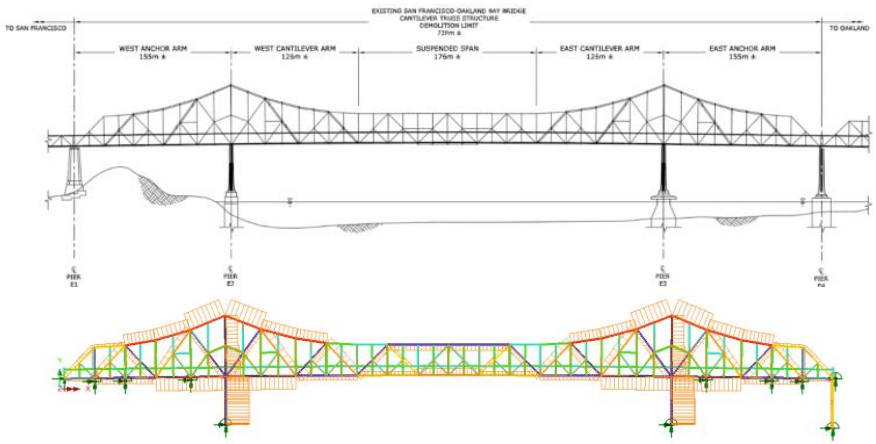
Forth Rail and Road Bridges

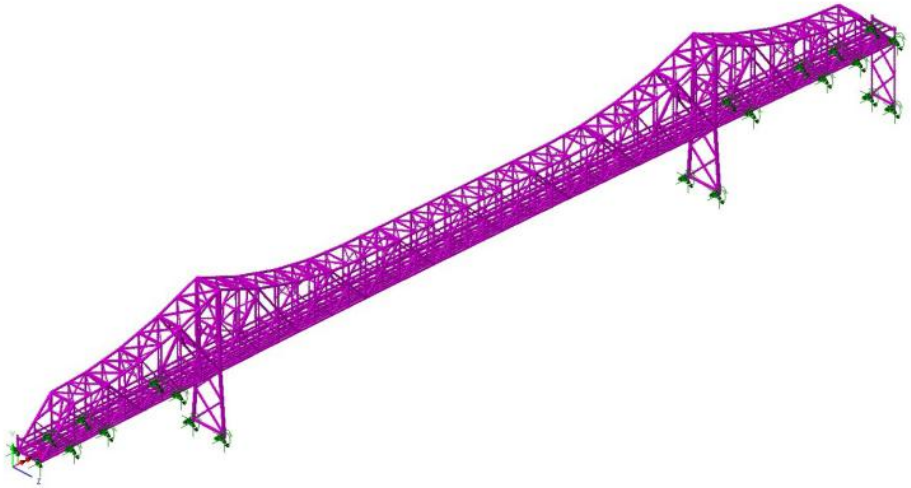
Various consultants

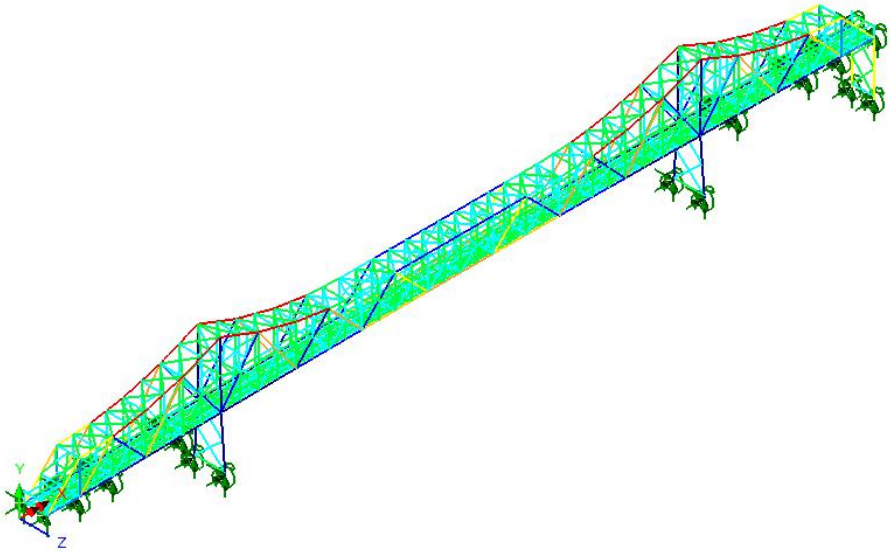
… and the new Queensferry Crossing

Ramboll and other consultants

SFOBB East Main Span (Demolition)







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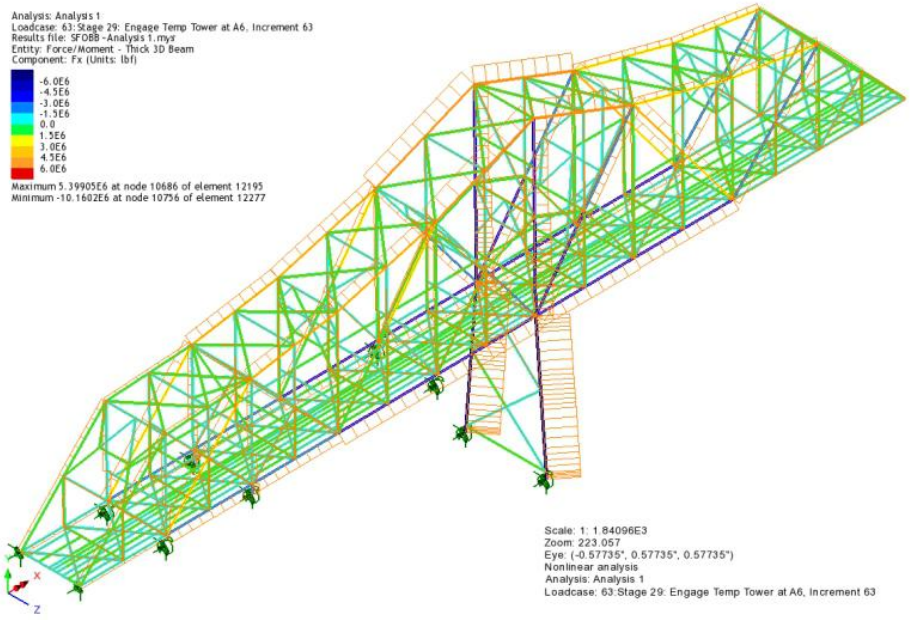
Foothills Bridge Co

SFOBB East Main Span (Demolition)



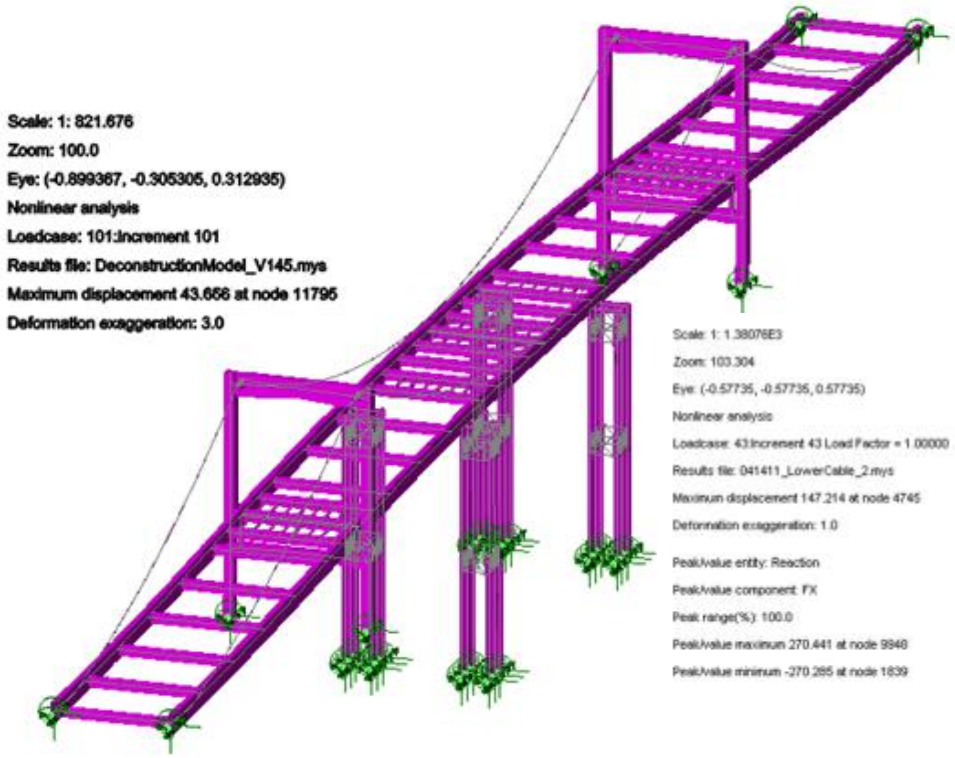
LUSAS

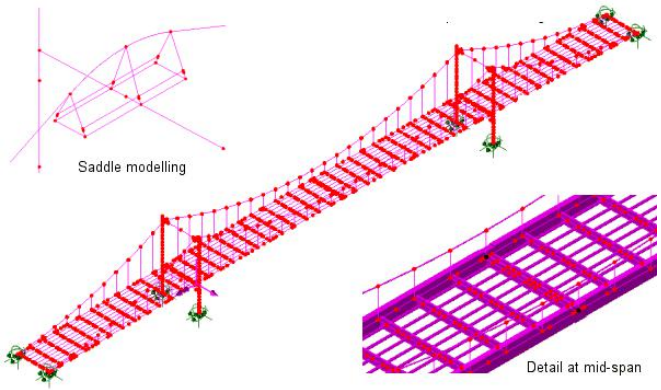
Foothills Bridge Co

Paseo Bridge (Demolition)

Genesis Structures

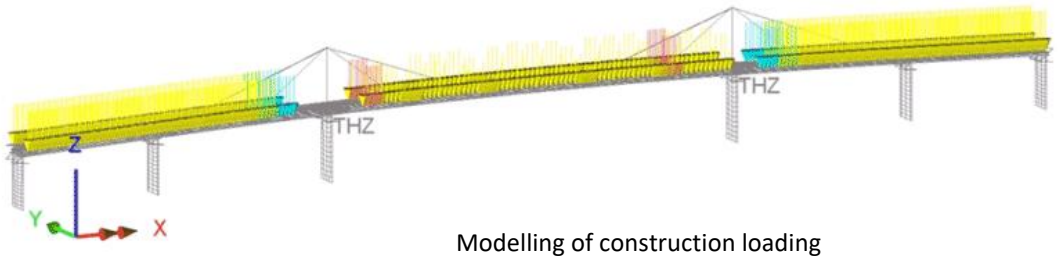
Paseo Bridge (Demolition)



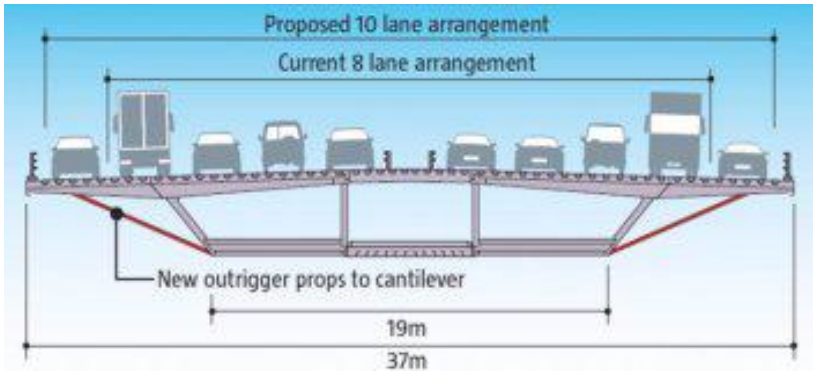


Genesis Structures

West Gate Bridge (Upgrade)

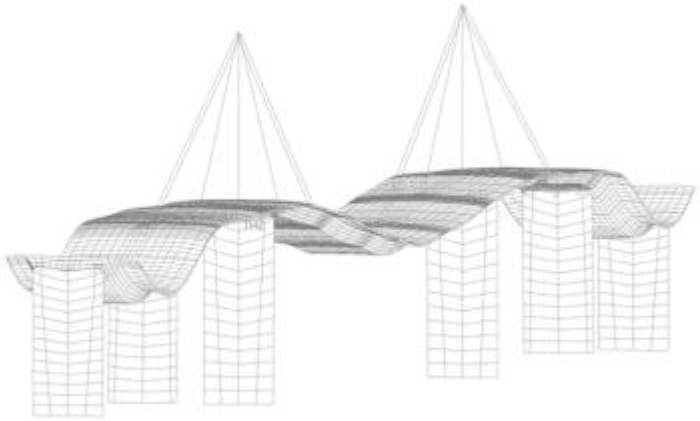


Modelling of construction loading

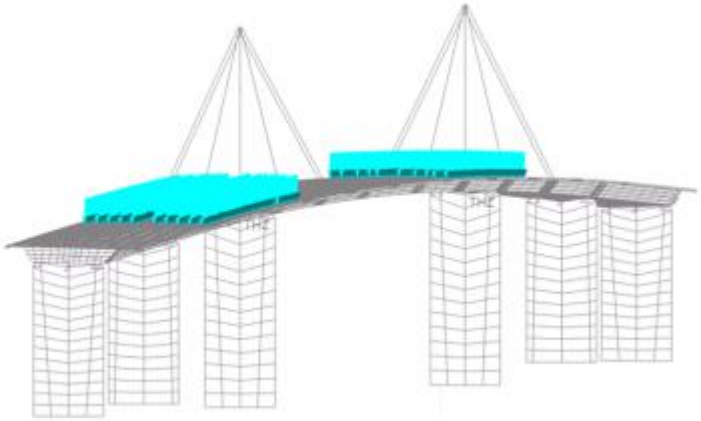


Flint and Neill

West Gate Bridge, (Upgrade)



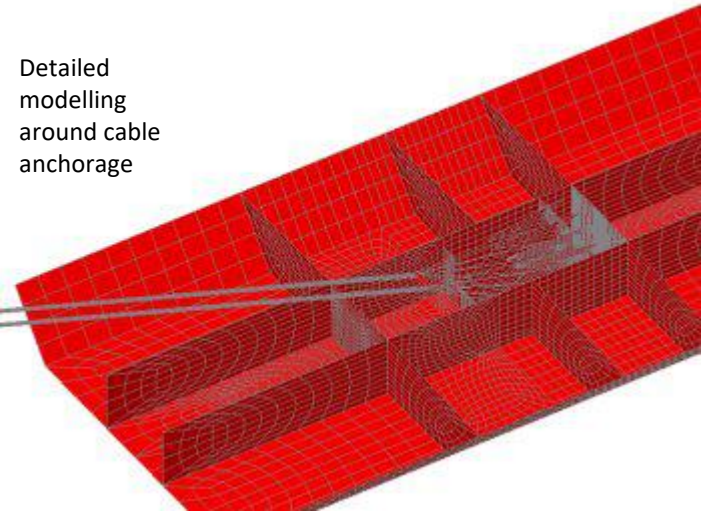
LUSAS model showing the permanent load deflection and cable creep

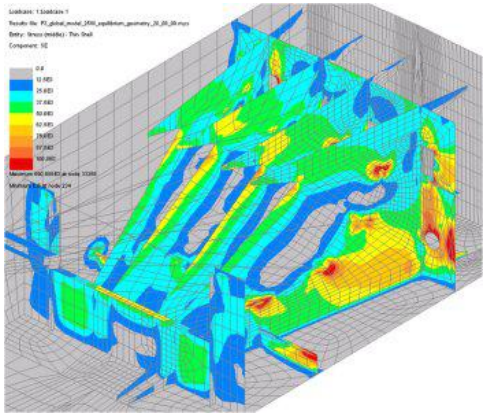


Live load modelling

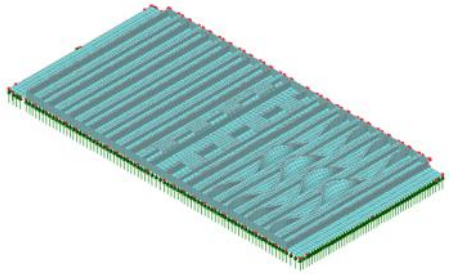
Bulb flat stiffened plates showing different types of strengthening

Detailed modelling around cable anchorage





Stresses in anchorage plates



Analysis of bulb flat stiffened section of box

LUSAS

Flint and Neill

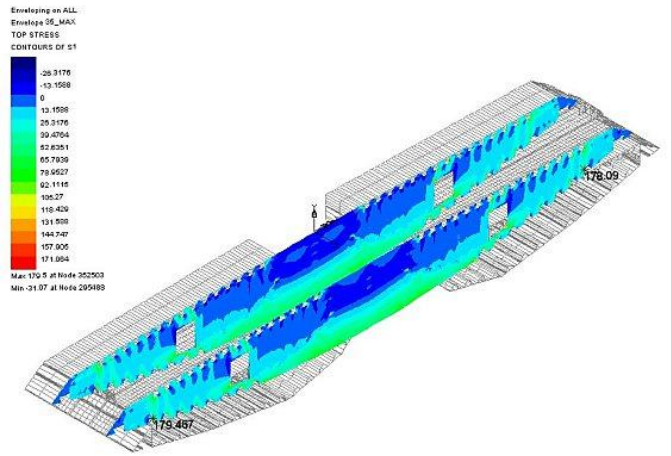
Storebaelt Bridge

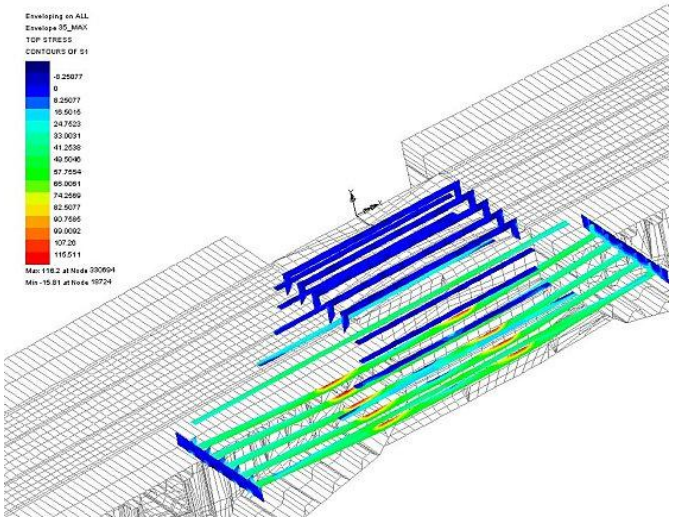
De Miranda Associati

Dee River Crossing

Giffords (Now Ramboll)

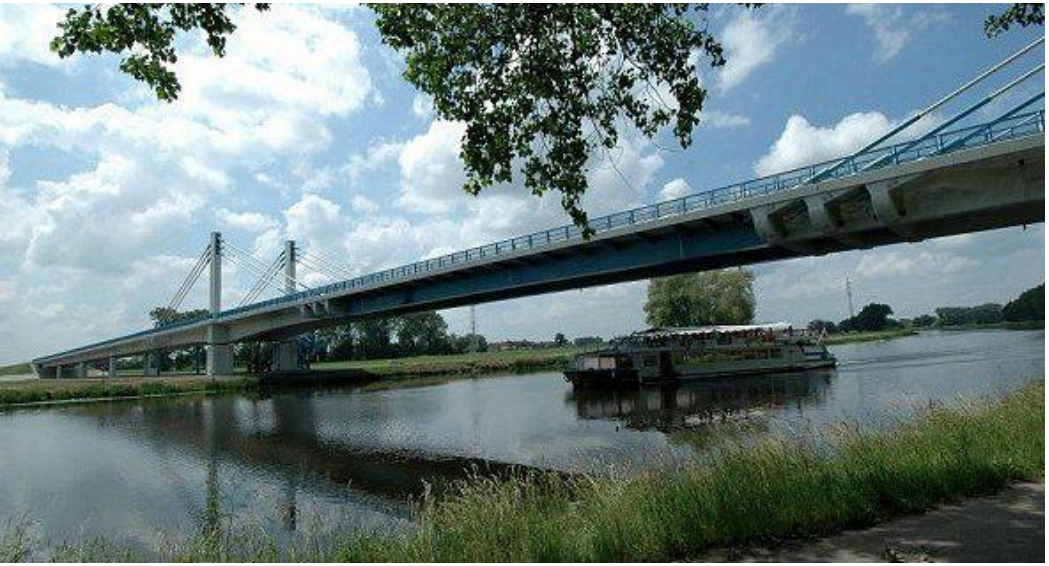
Gwangyang Bridge

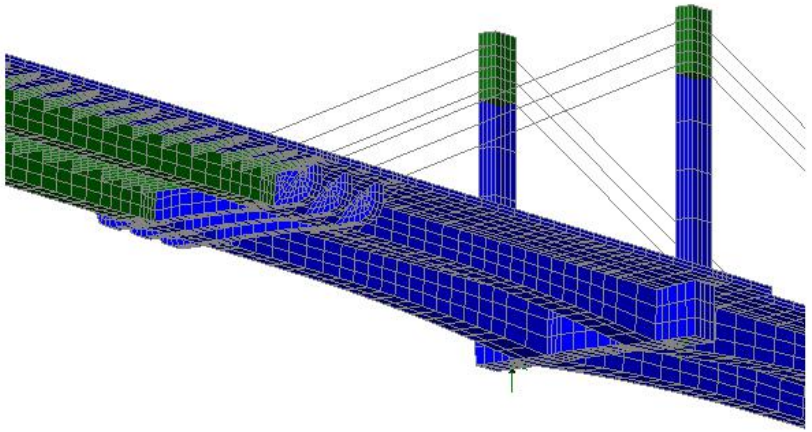


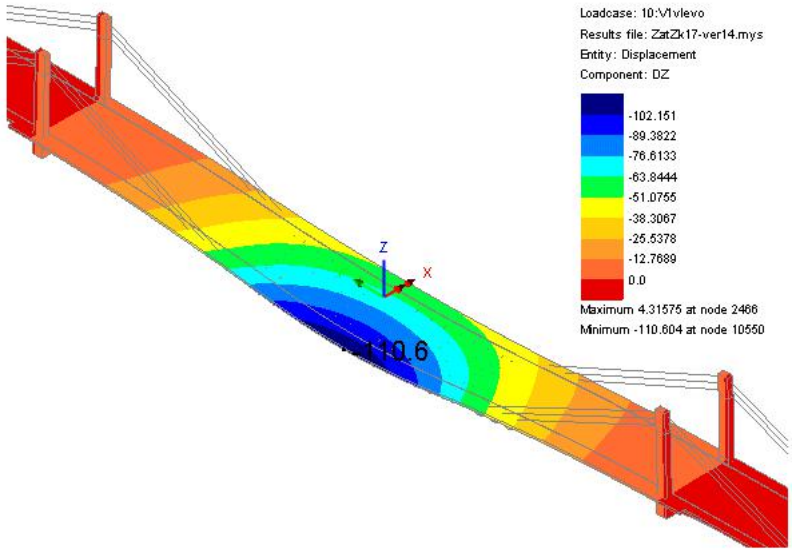


Envico Consultants

Bridge over River Labe







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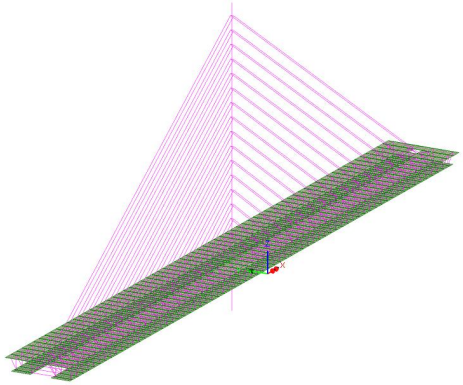
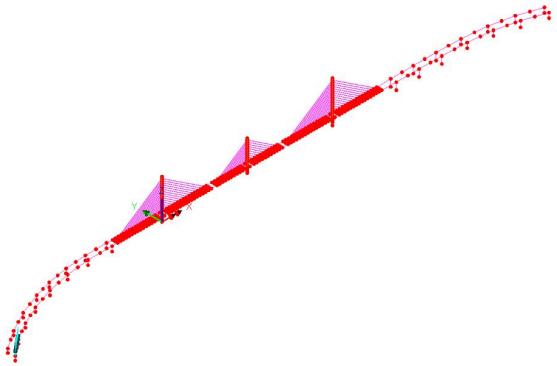
Pontex Consulting Engineers

Mersey Gateway Bridge





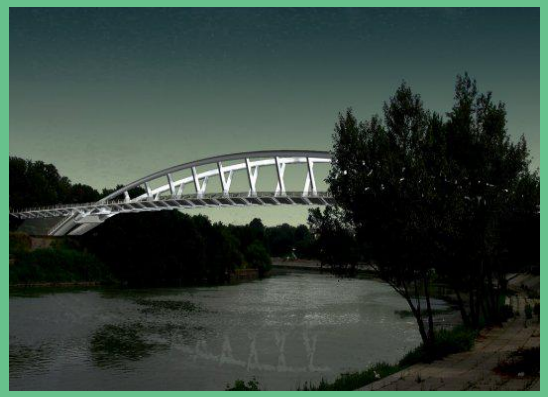
Gifford / Flint & Neill

… for Arch Bridges

West 7th Street Bridge


Sperritt Tunnel


Kingston Bridge


Ponte della Musica


I94 Gateway Arches

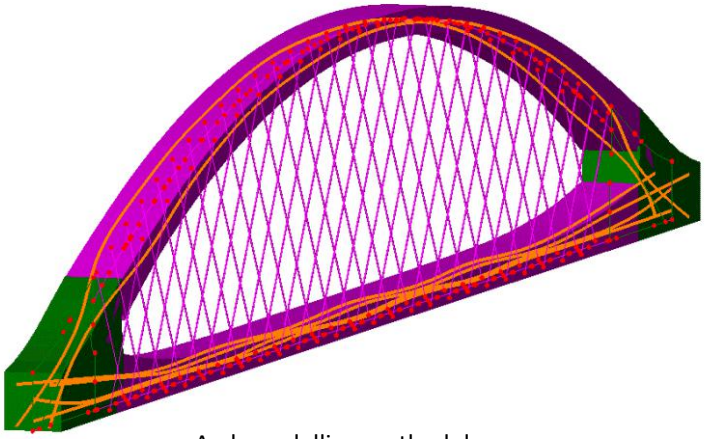

Namdo Bridge

West 7th St Bridge

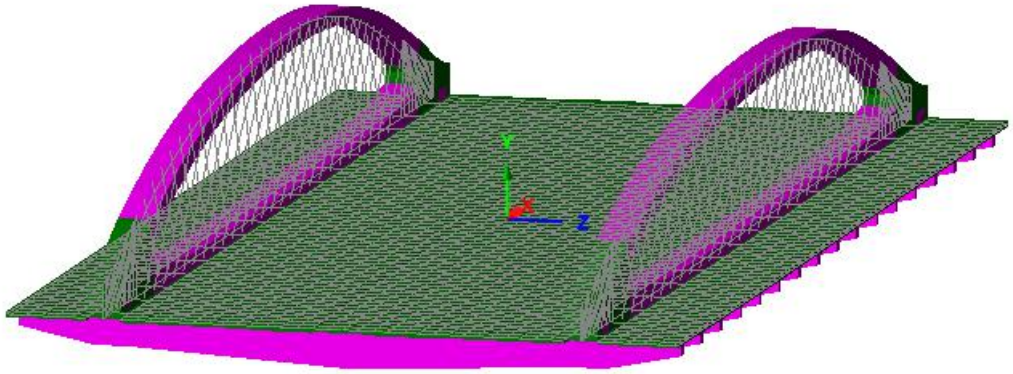
"First Bridge of its kind in the world"

Texas DoT

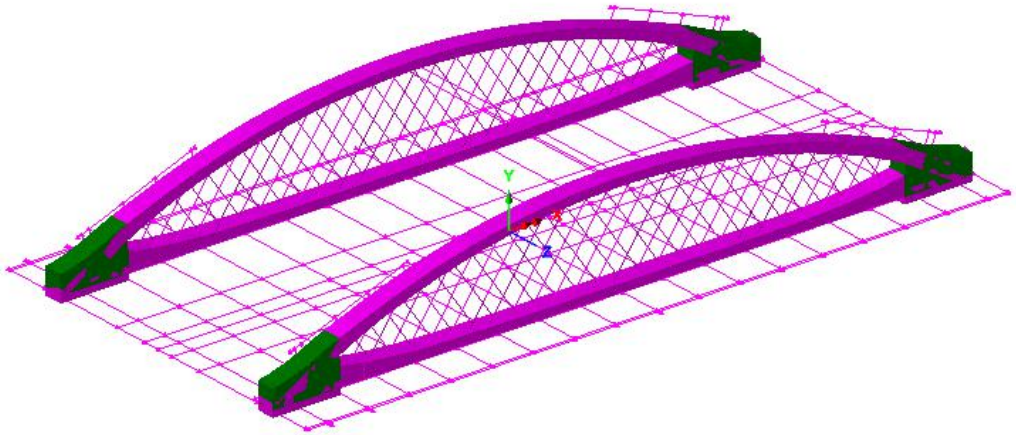
West 7th St Bridge



Arch modelling methodology



Eigenmode analysis for a three lane loading assessment

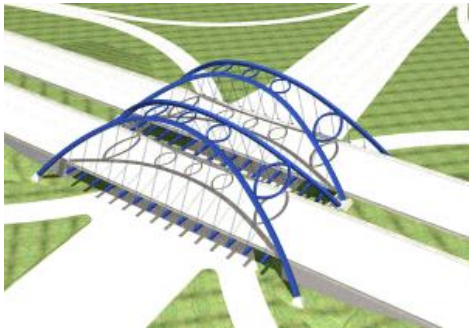


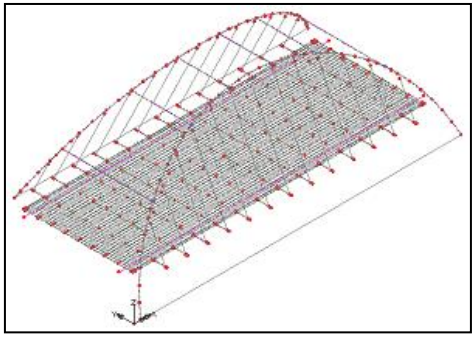
Construction sequence modelling for a single span

LUSAS

Texas DoT

I-94 Gateway Bridge

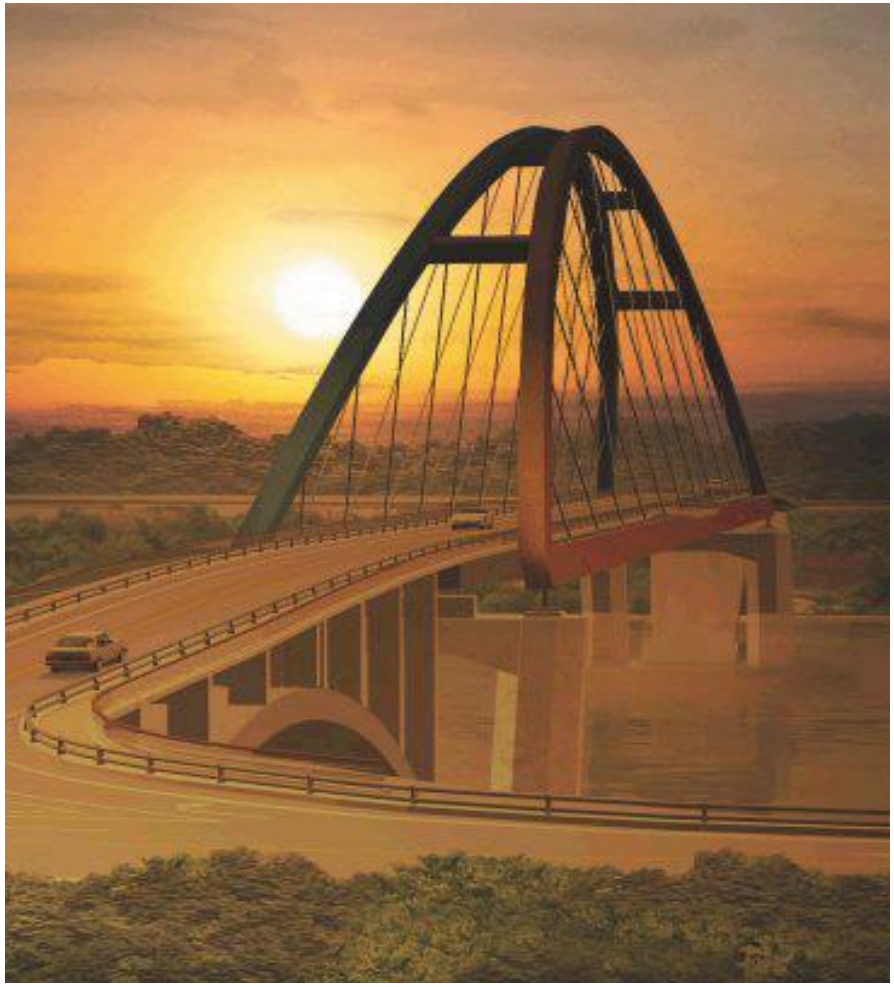


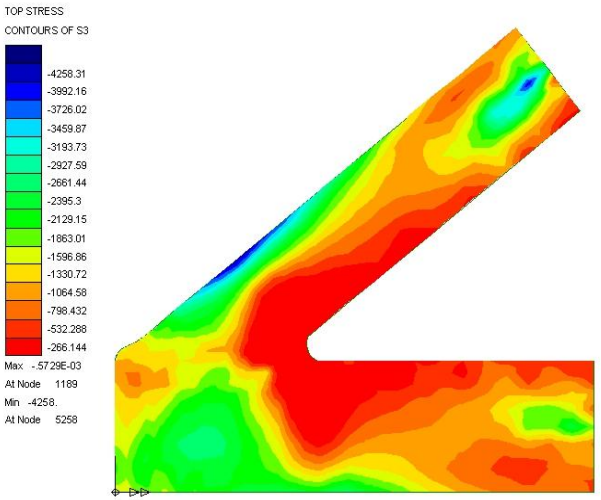


Alfred Benesch and Company

Walton Bridge

Namdo Bridge





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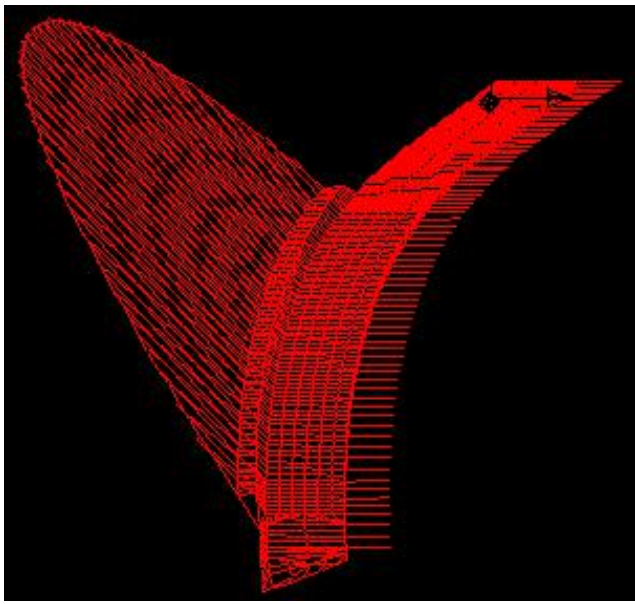
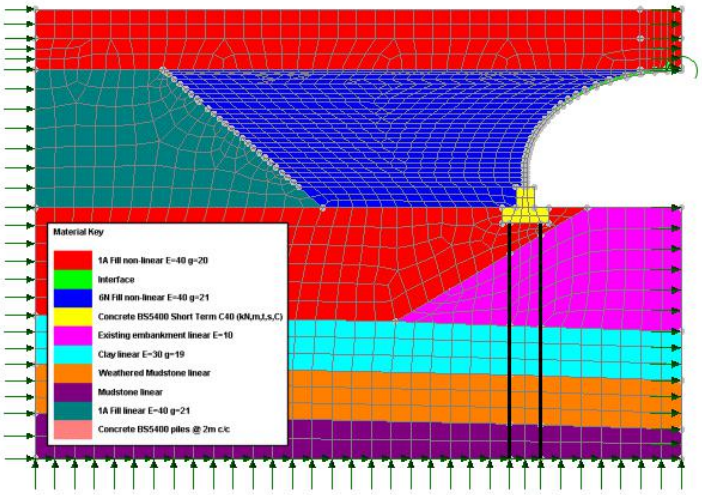
Sambo Engineering Co Ltd

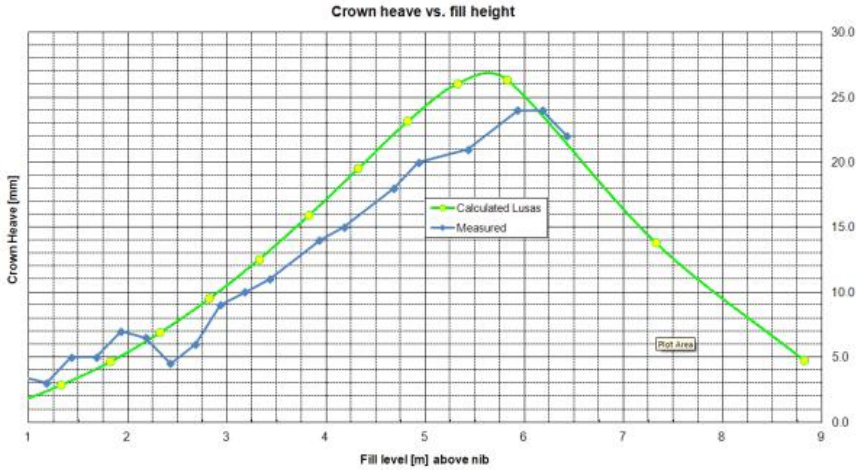
York Millennium Footbridge

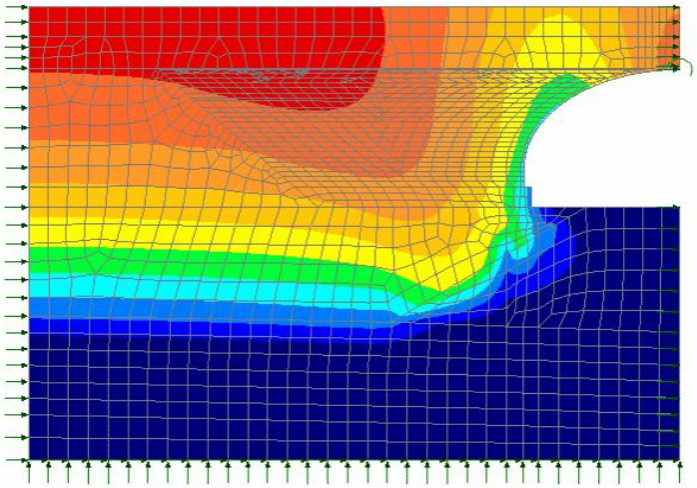


Whitby Bird Group (now Ramboll)

BEBO Arch System Modelling







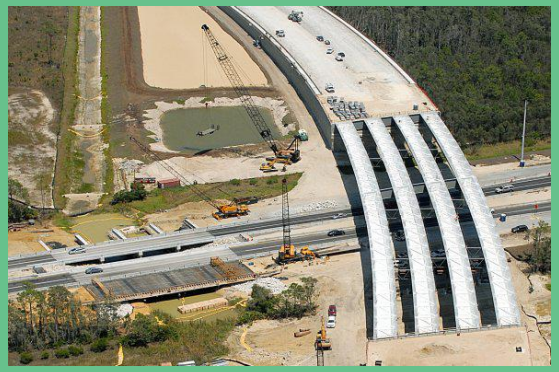
BEBO Arch International AG

Box girder bridges

Currie Road Bridge

DART Blue line extension

Interchange Bridges, Road 431

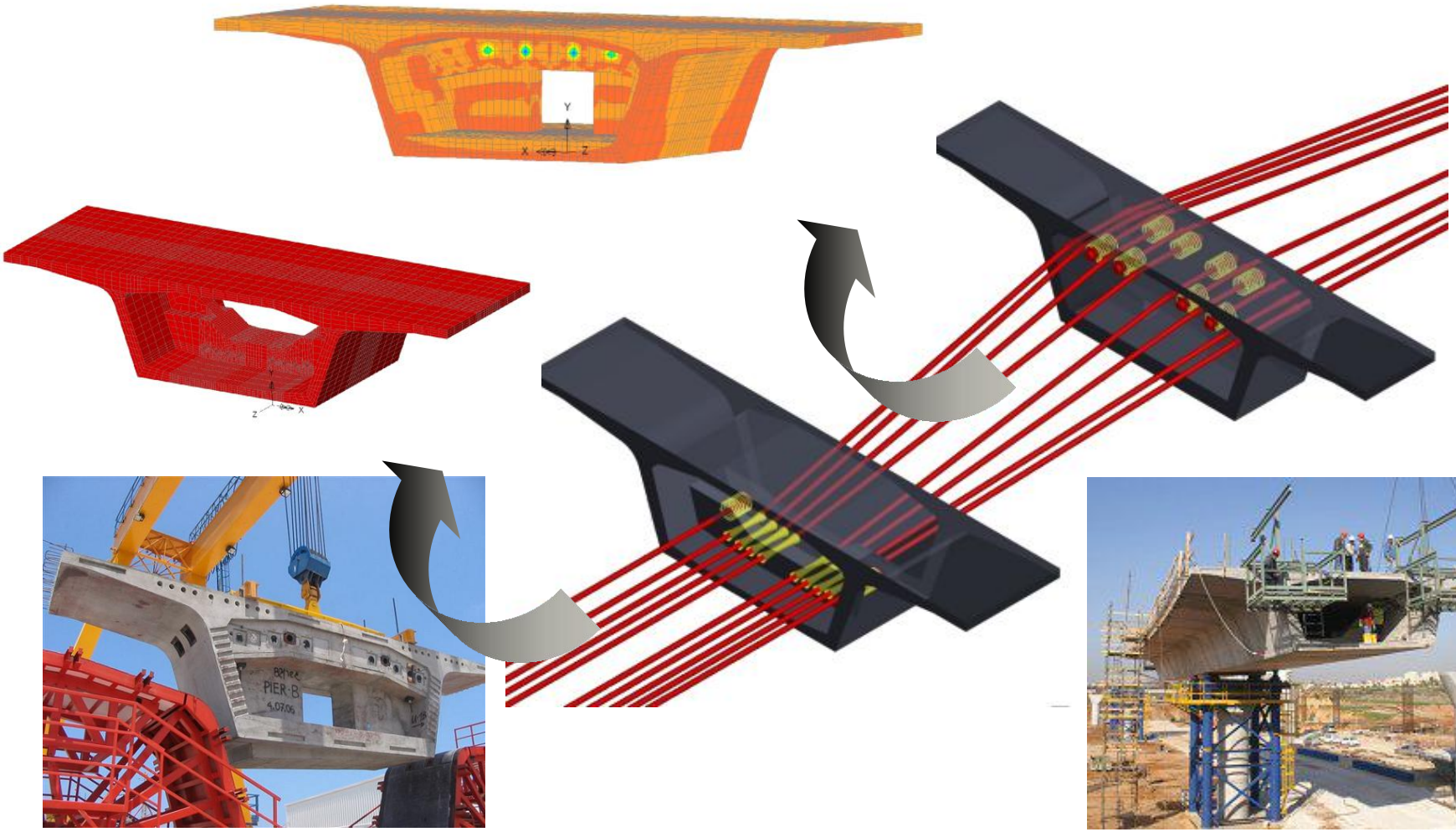


Estero Parkway

West Gate Bridge upgrade

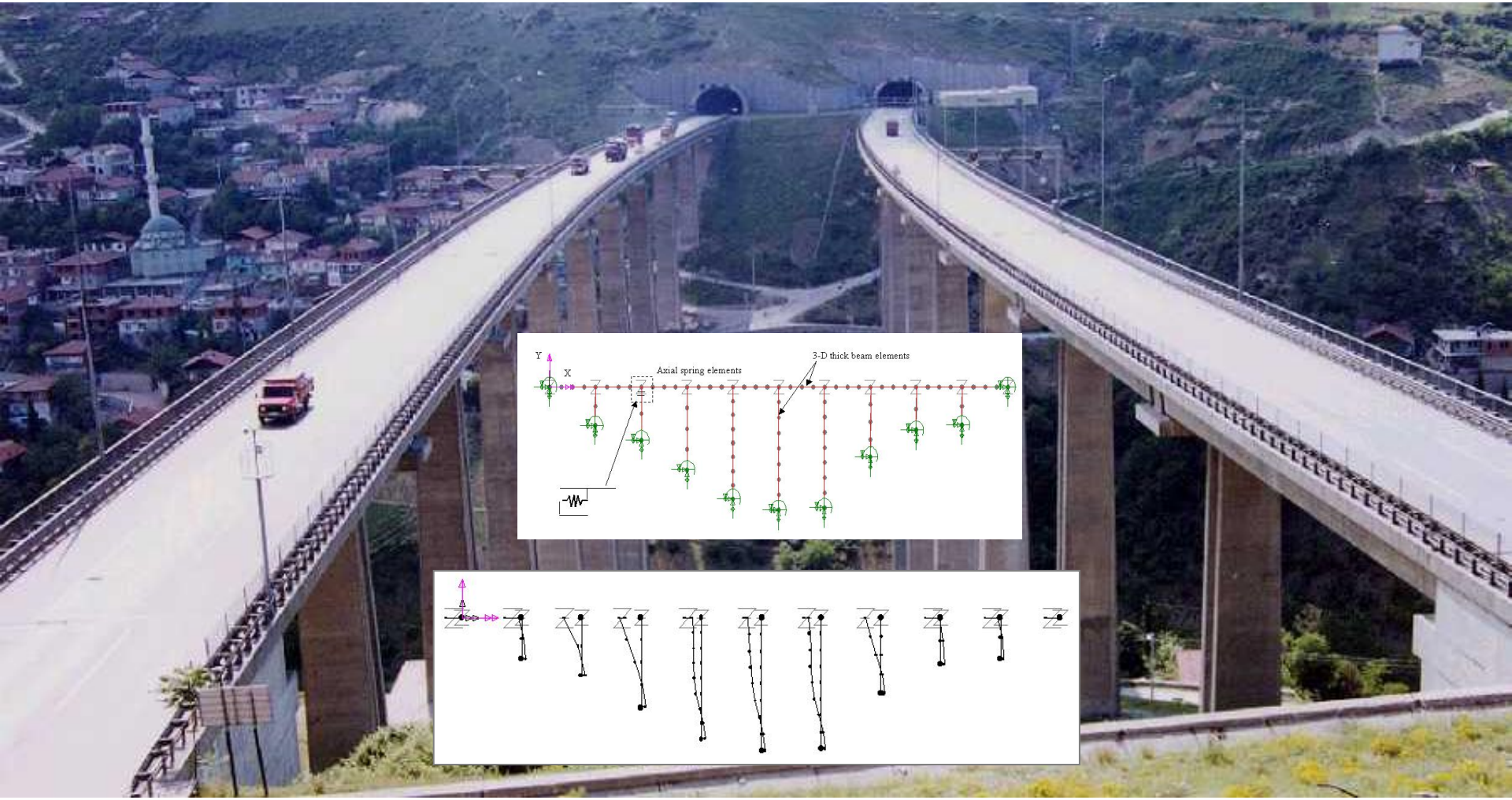
Avenues Walk

Interchange Bridges, Road 431



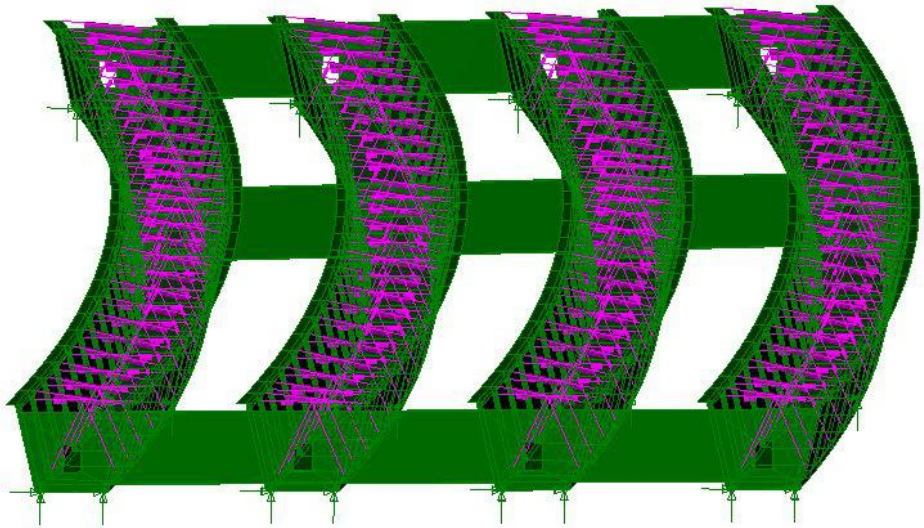
Finley Engineering

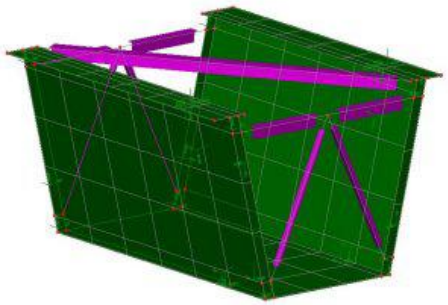
Mustafa Inan Viaduct

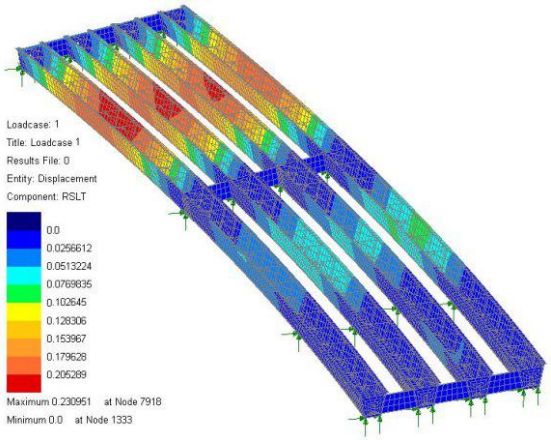


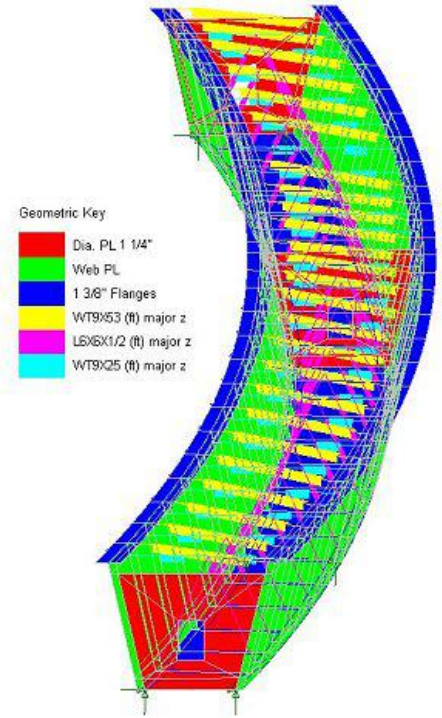
Gebze Technology

Estero Parkway





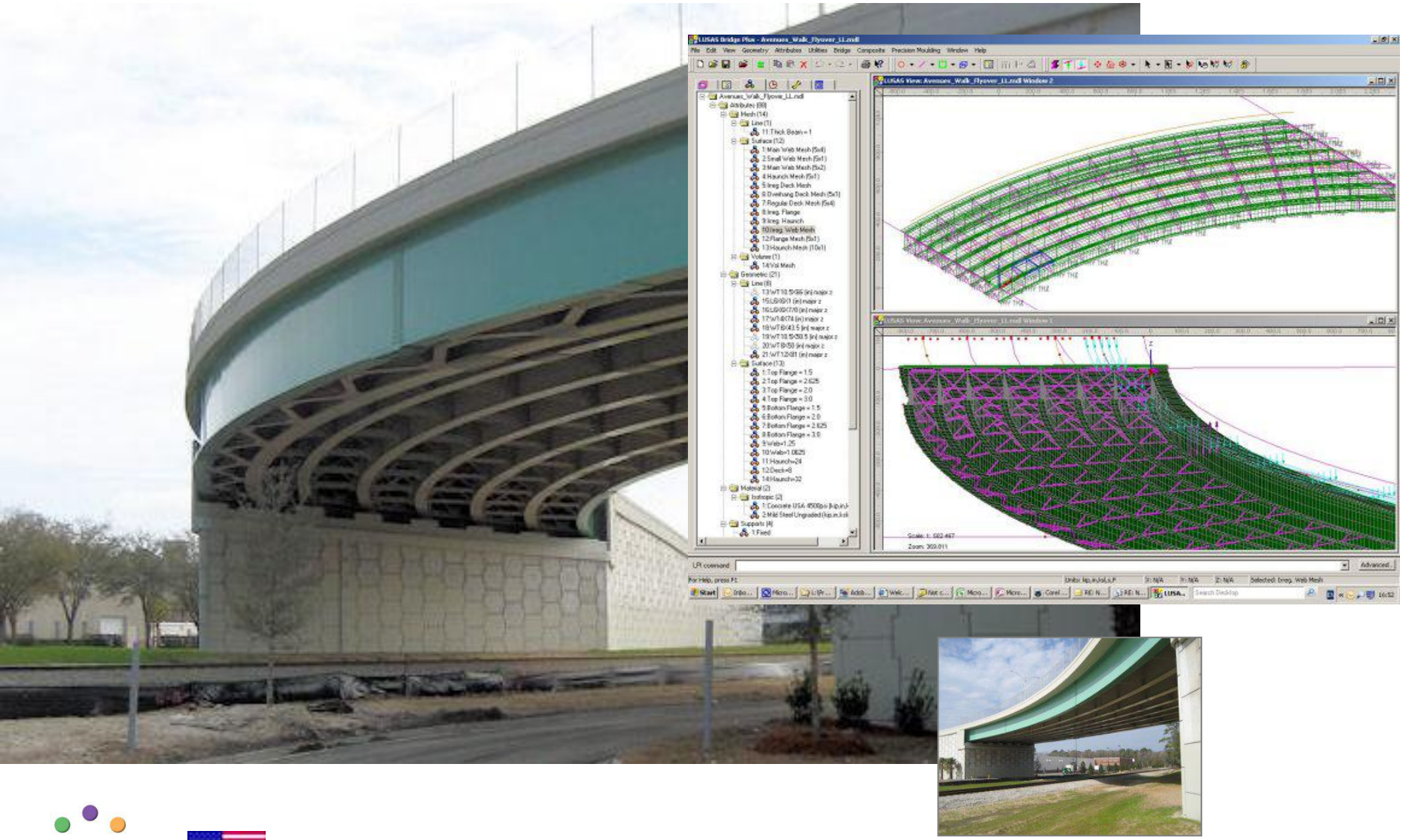




LUSAS

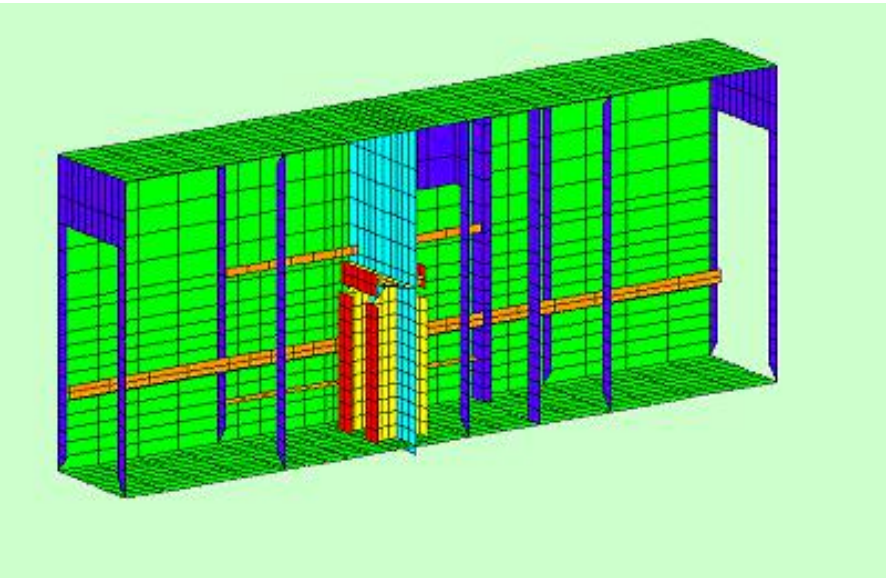
Finley Engineering

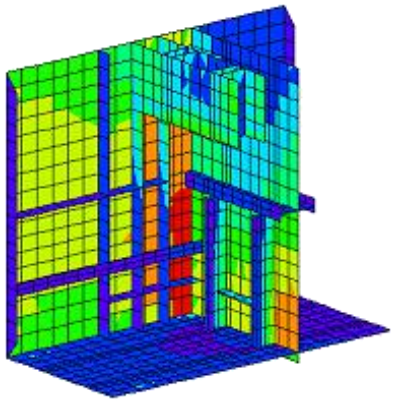
Avenues Walk Flyover

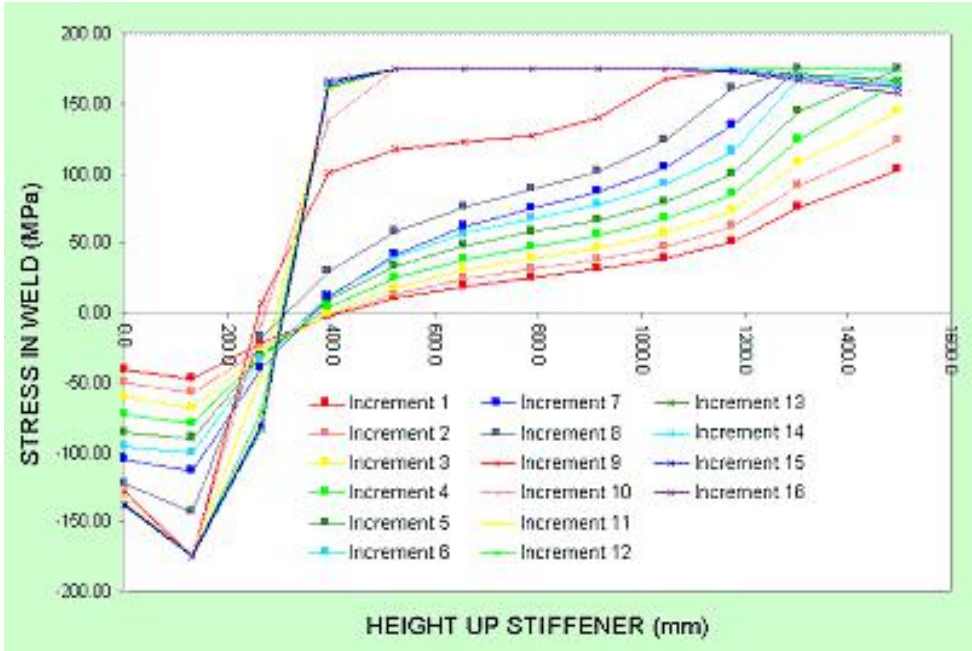


GAI Consultants

Box Diaphragm Assessments





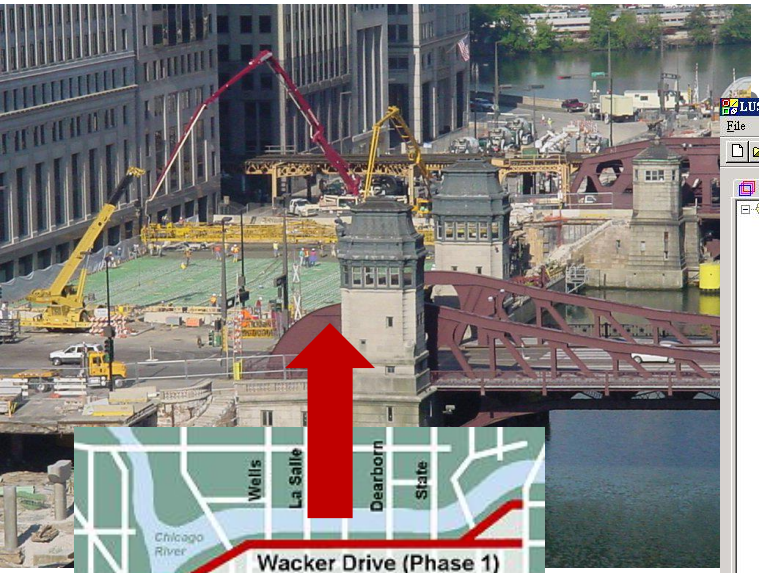


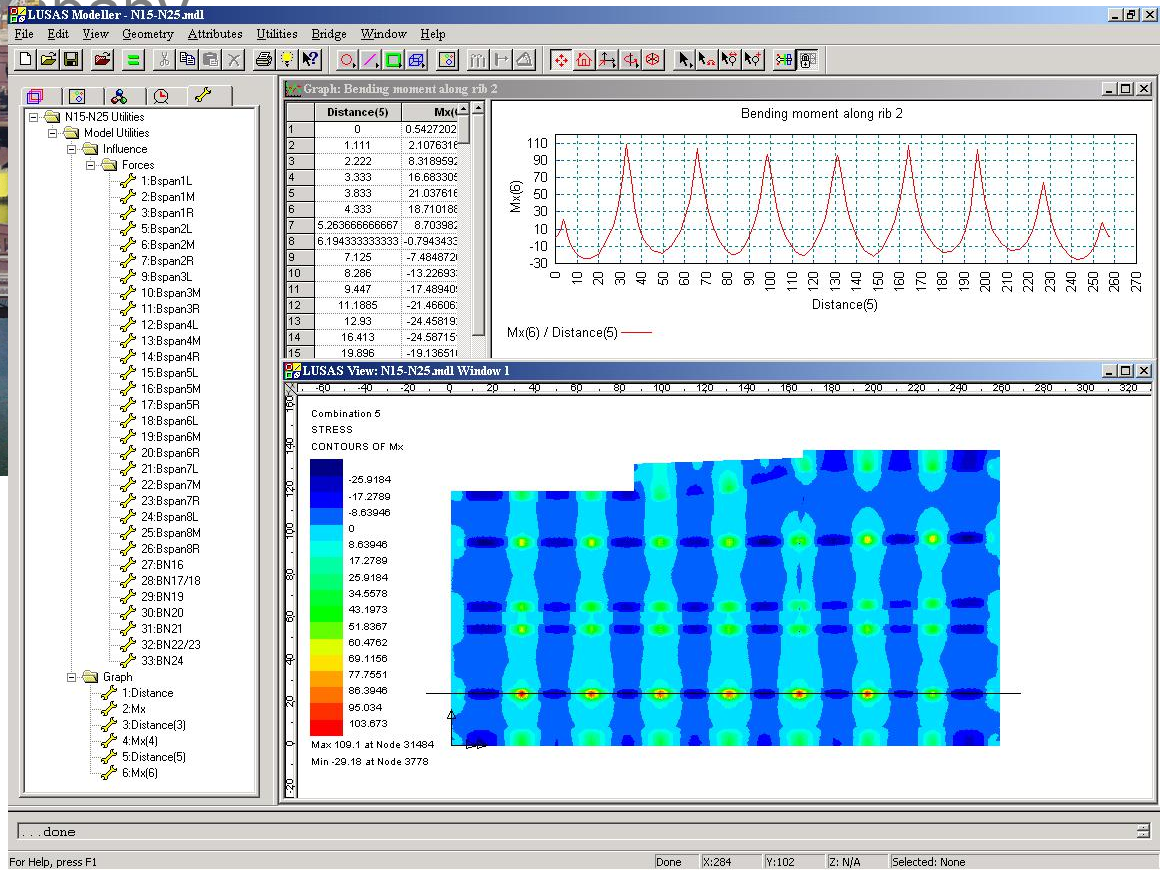
LUSAS

Faber Maunsell

Wacker Drive

Phase 2 Reconstruction





LUSAS

Benesch

Integral Abutment Bridges

Roding Bridge

Whitacre Bridge

Brockhampton Road Bridge

River Roe Bridge

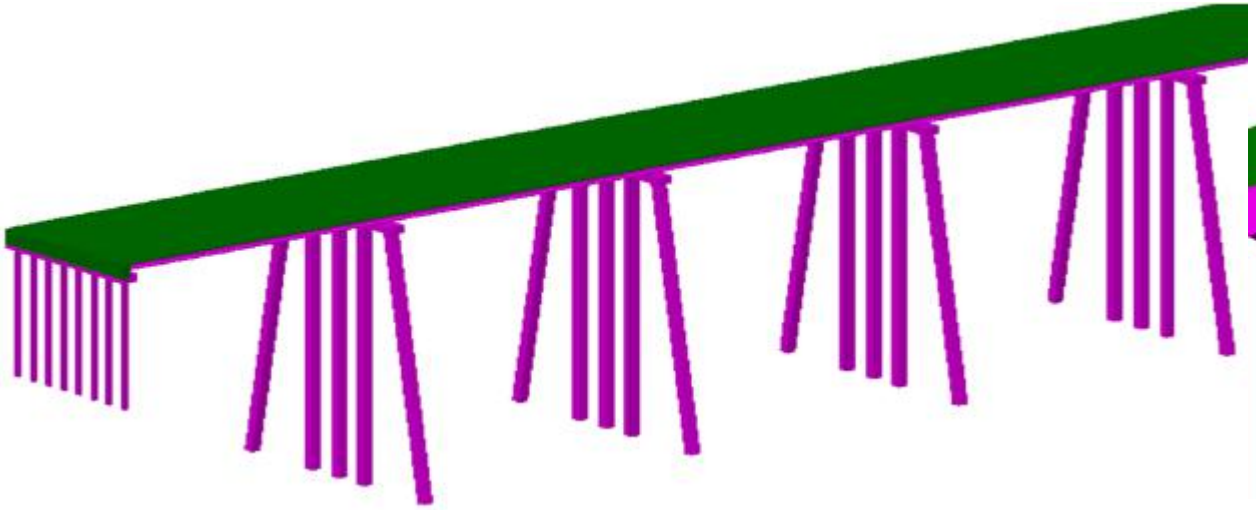
Blagdon Bridge

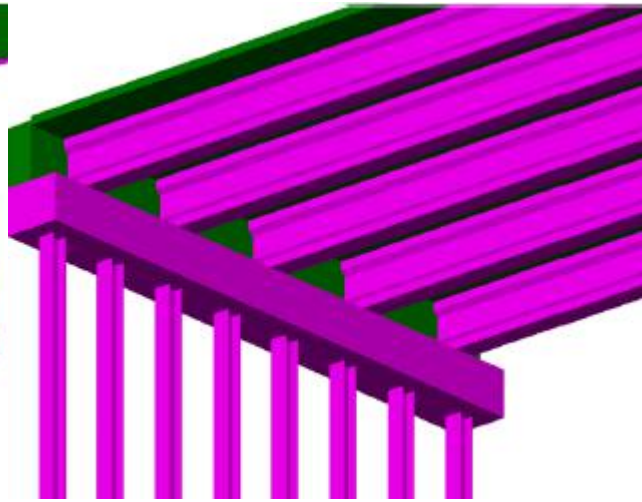
Dowlands Road Bridge

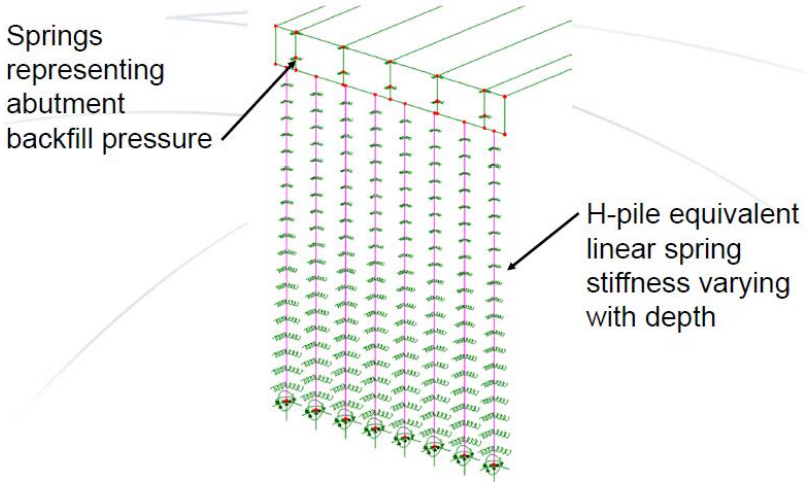
North Shotton Overbridge

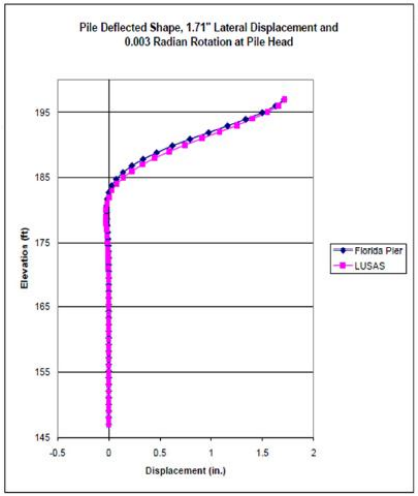
Northumberland TS Consultancy

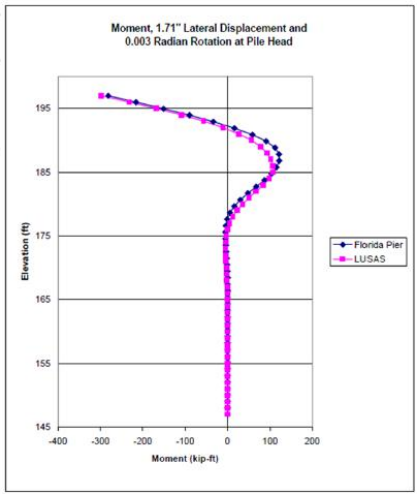
Bodcau Bayou







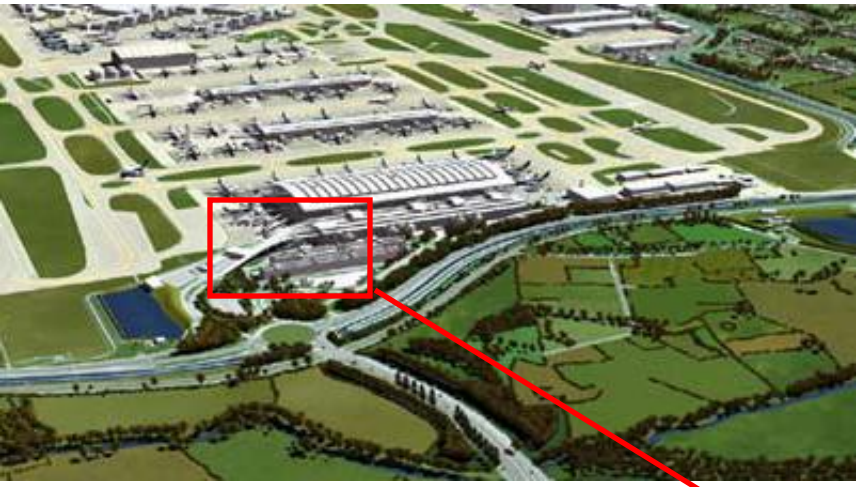




LUSAS

Modjeski and Masters

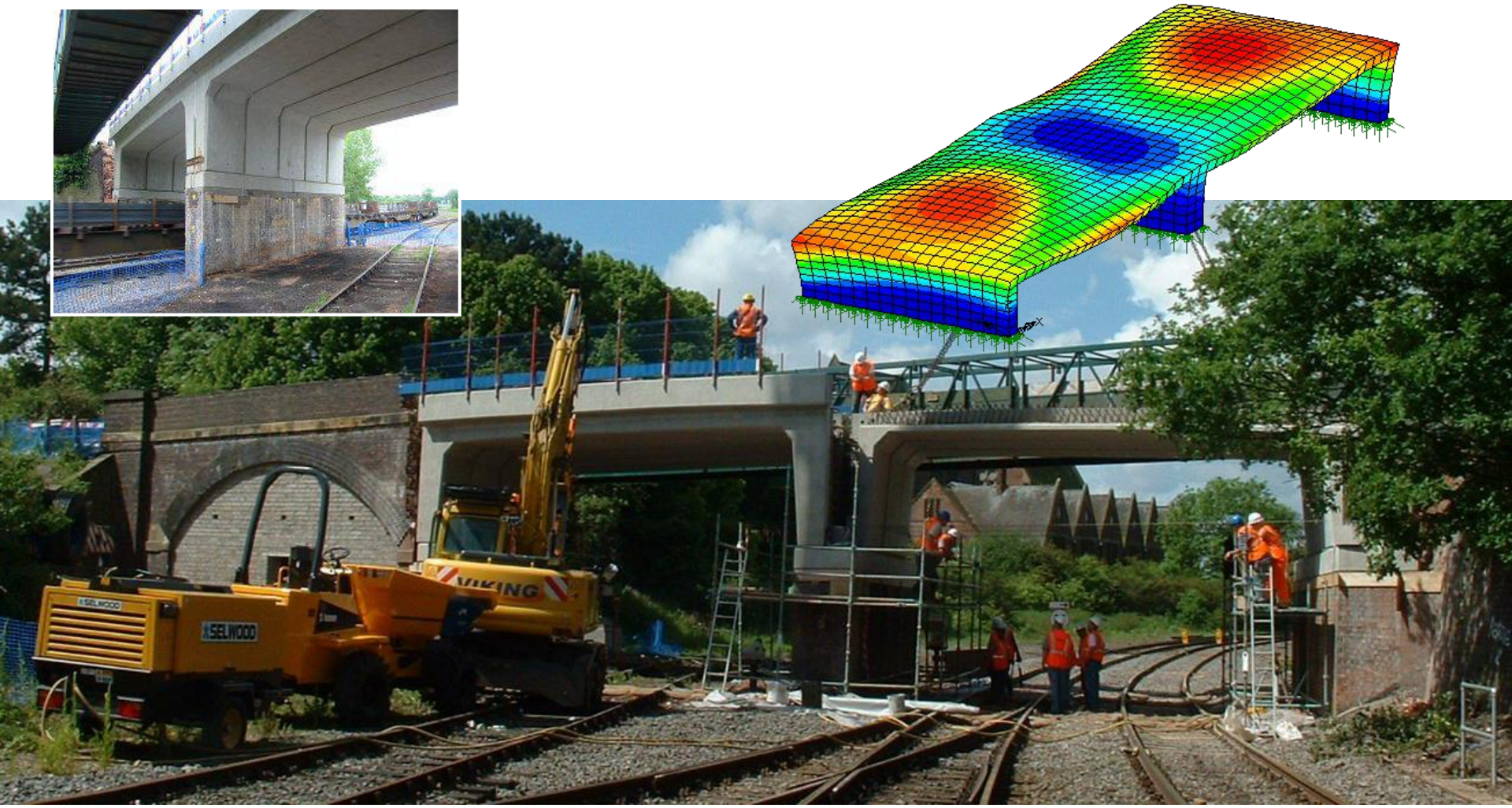
Ramps, Terminal 5 Heathrow



LUSAS

KBR

Whitacre Bridge



Tony Gee & Partners

… for Rail Bridges

DART Blue line extension

Glasgow Station upgrade

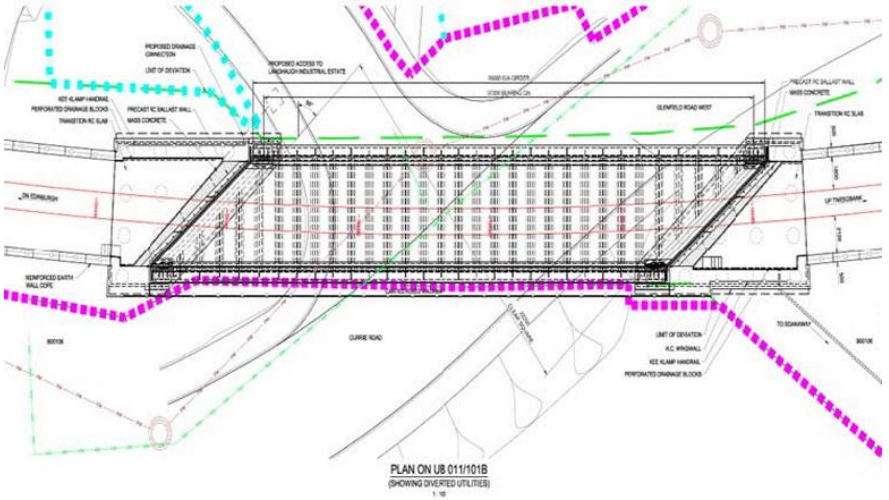
Dubai Metro Red + Green Lines

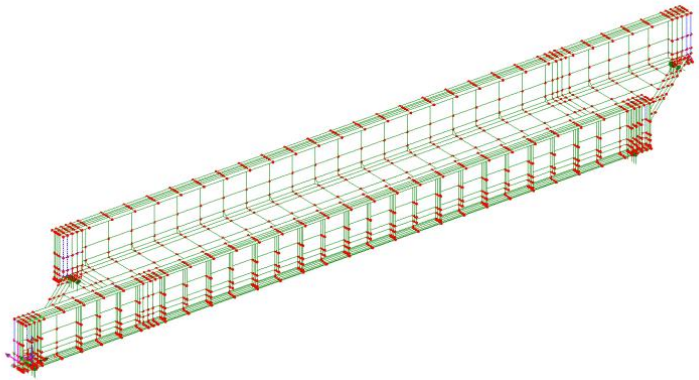
Honan High Speed Railway

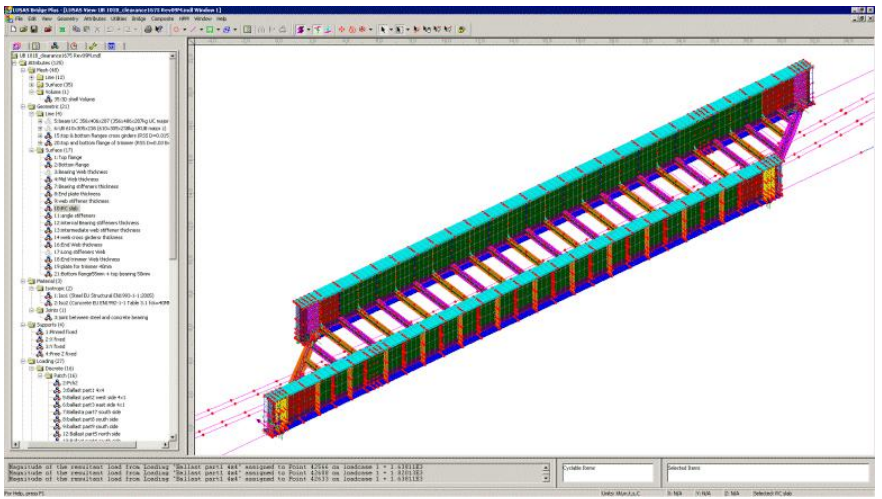
Taiwan High Speed Rail Link

Newark Dyke Bridge

Currie Road Bridge







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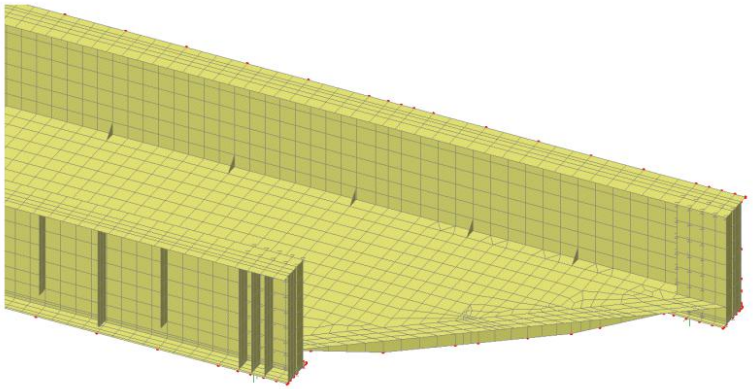
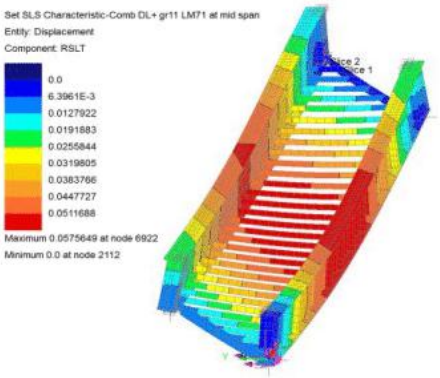
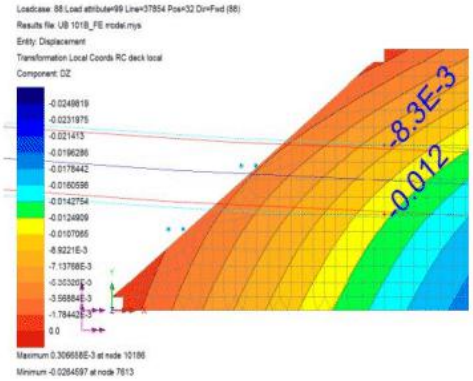
Atkins Rail

Currie Road Bridge

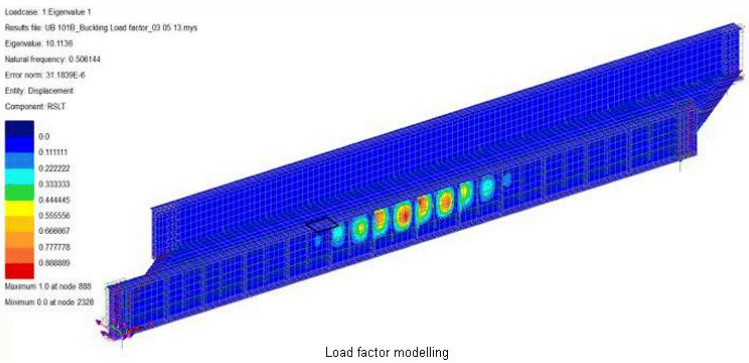


Detail of meshing showing end trimmer beam

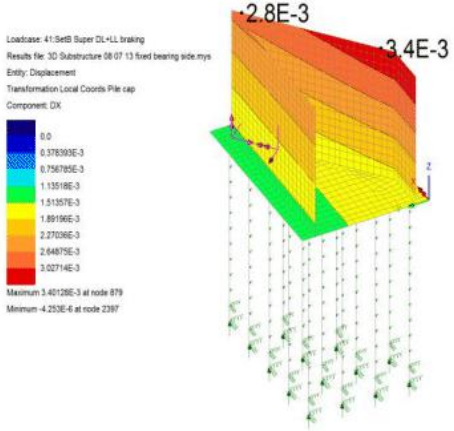


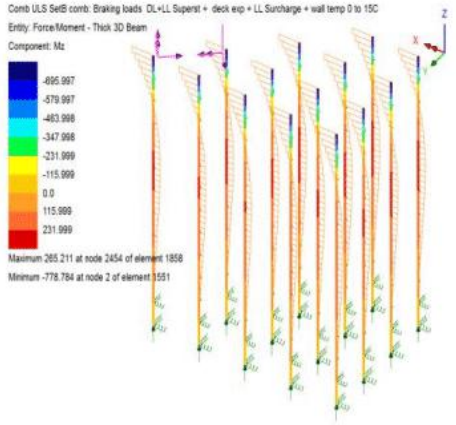


Displacement contour plots for particular design combinations



Load factor modelling





Substructure modelling showing displacements due to train braking loads

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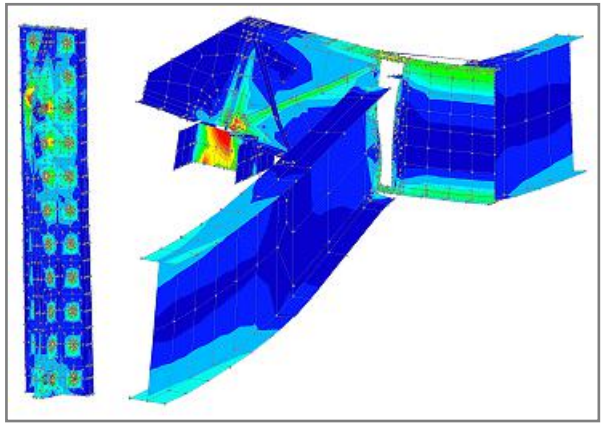
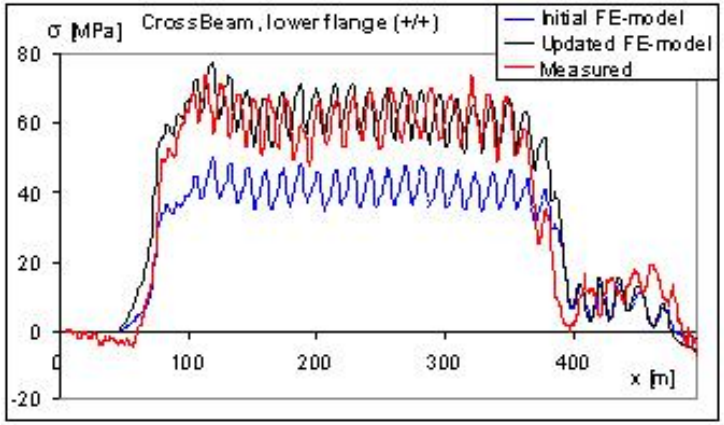
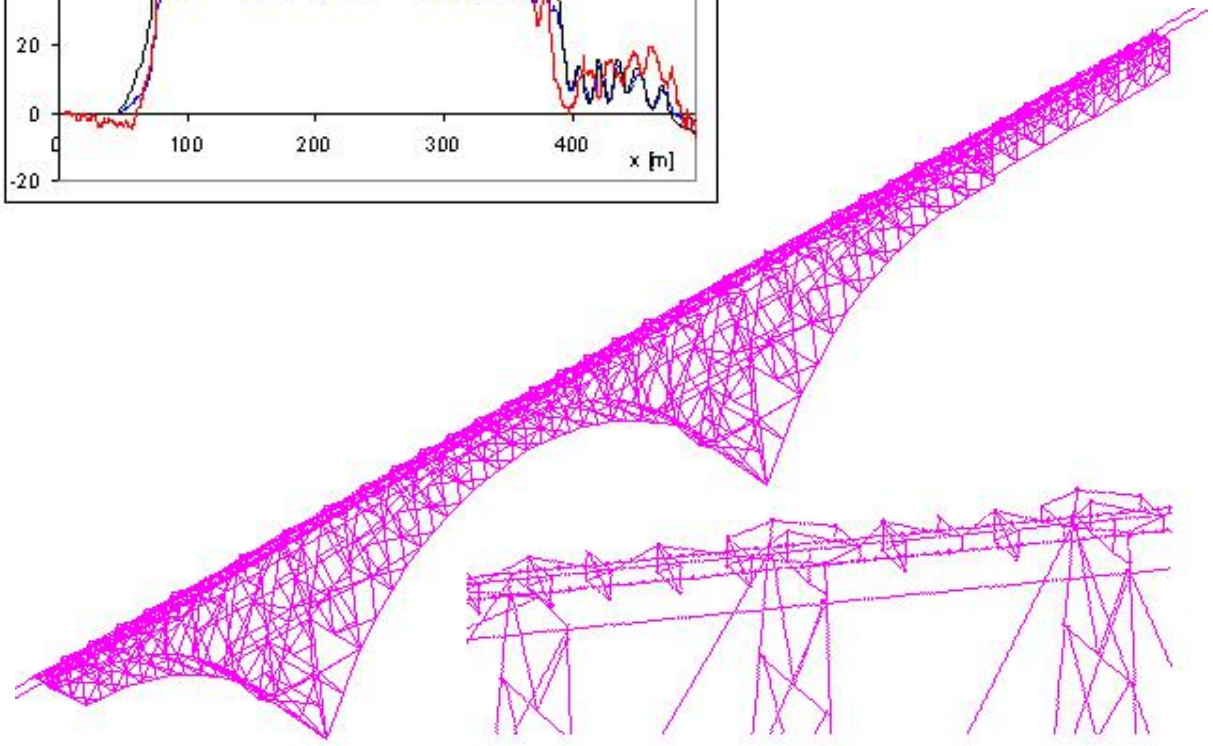
Forsmo Bridge







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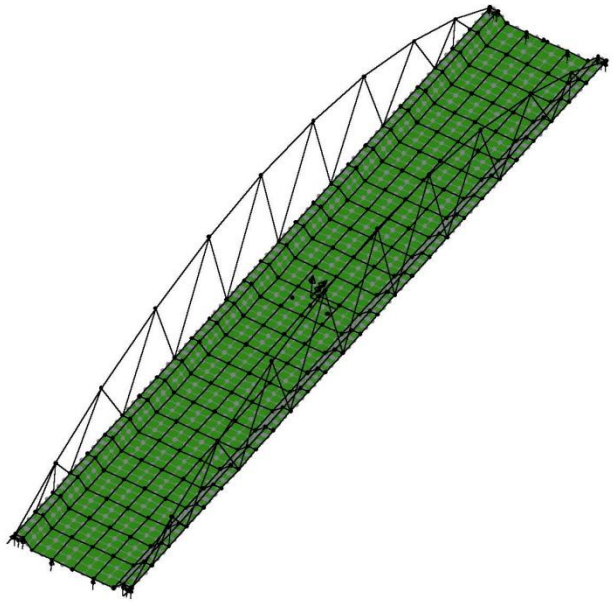
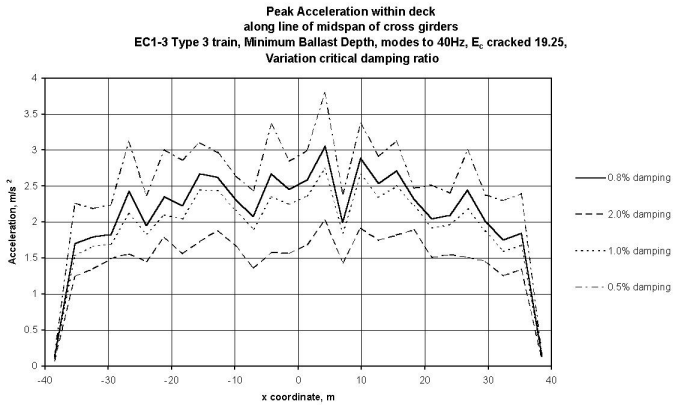
Ramboll

Newark High Speed Rail Bridge





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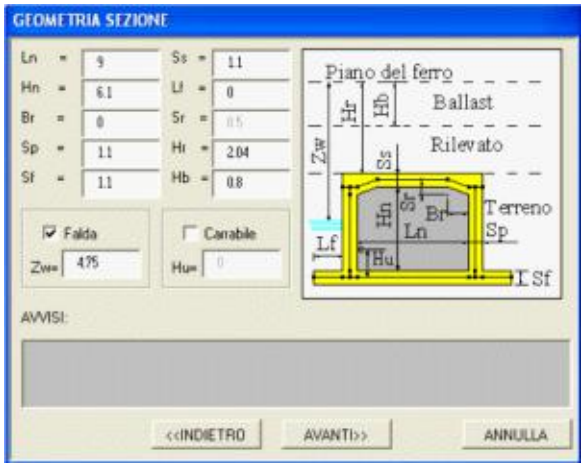
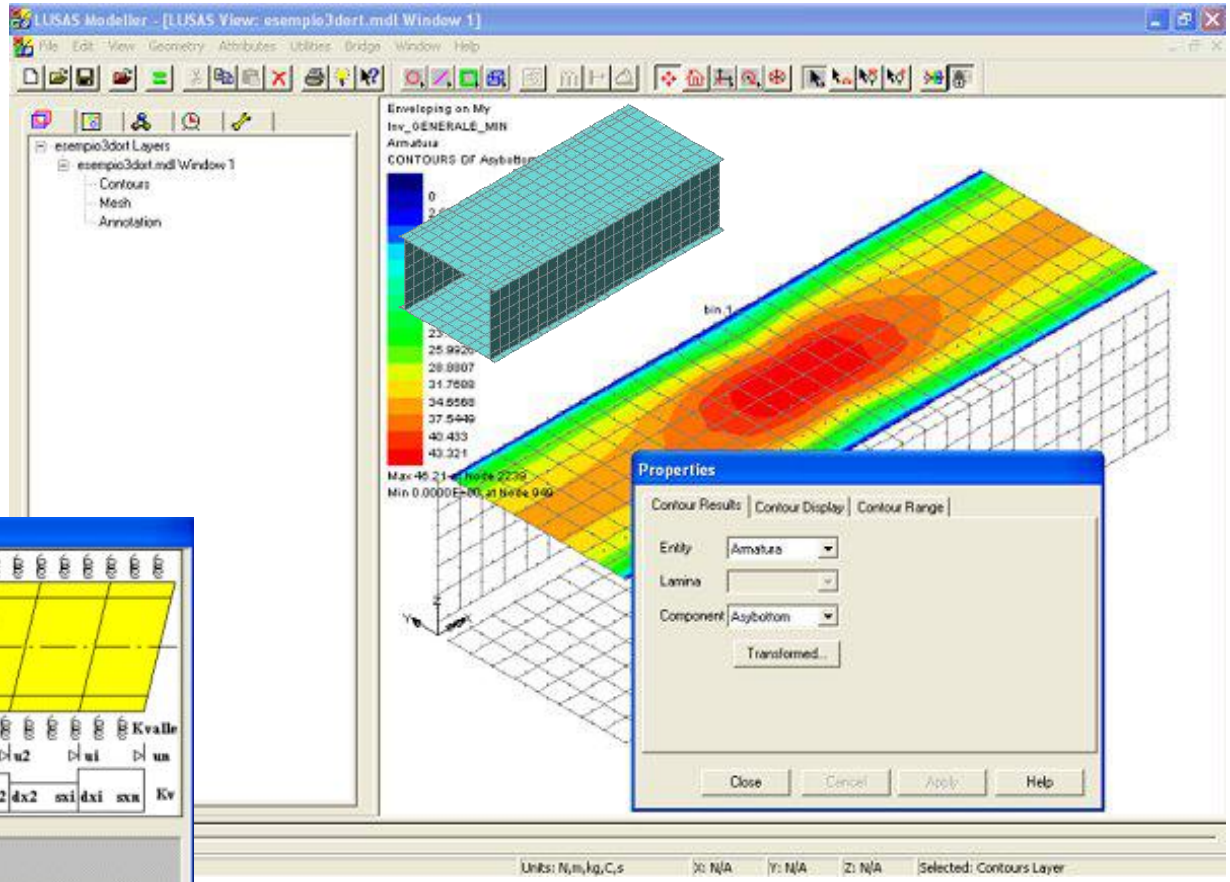
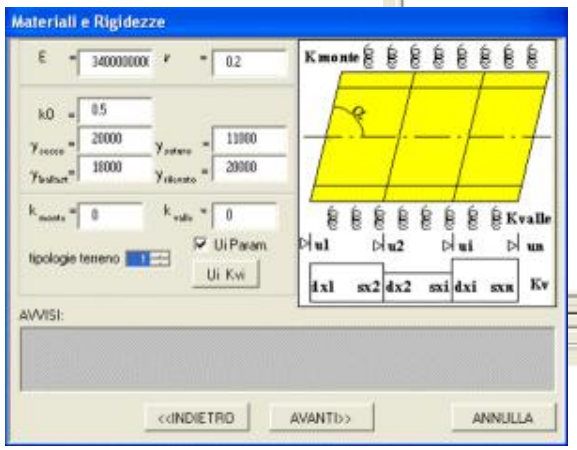
Cass Hayward

Automated Design of Railway Culverts

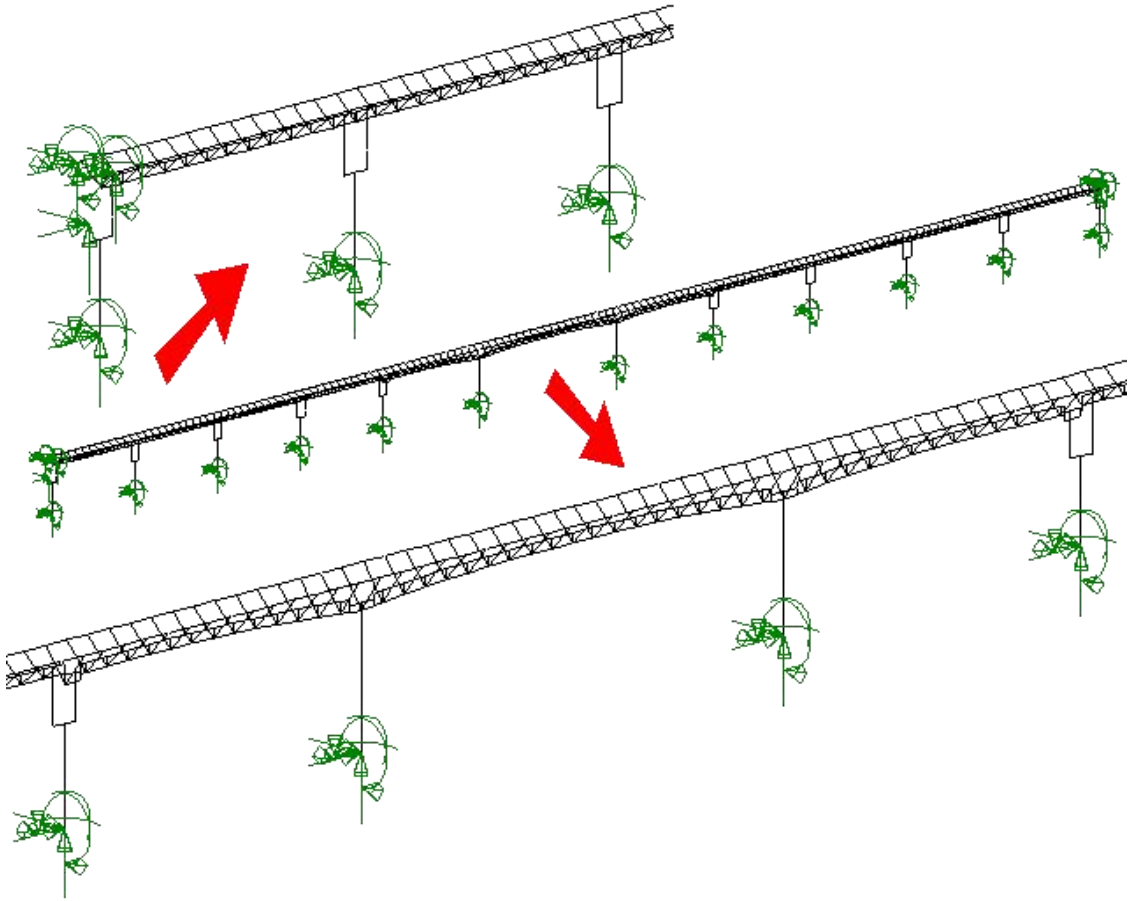


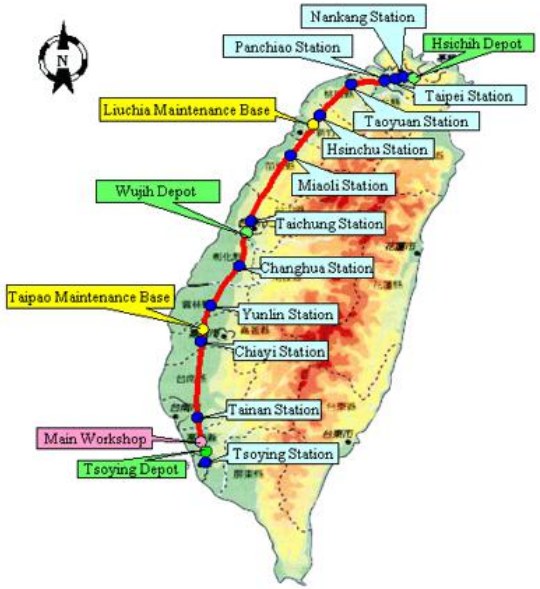




Alhambra srl

Taiwan High Speed Rail Project





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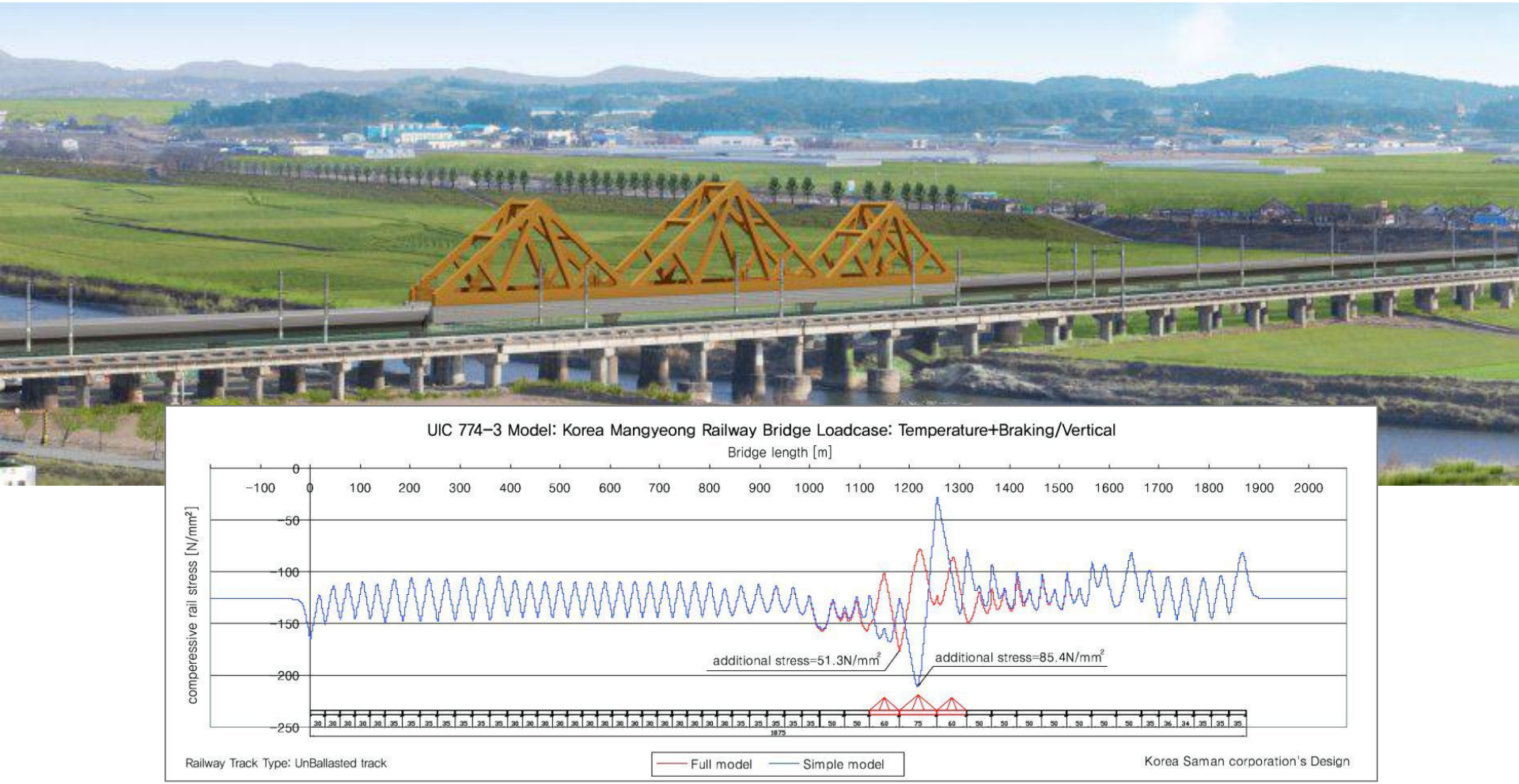
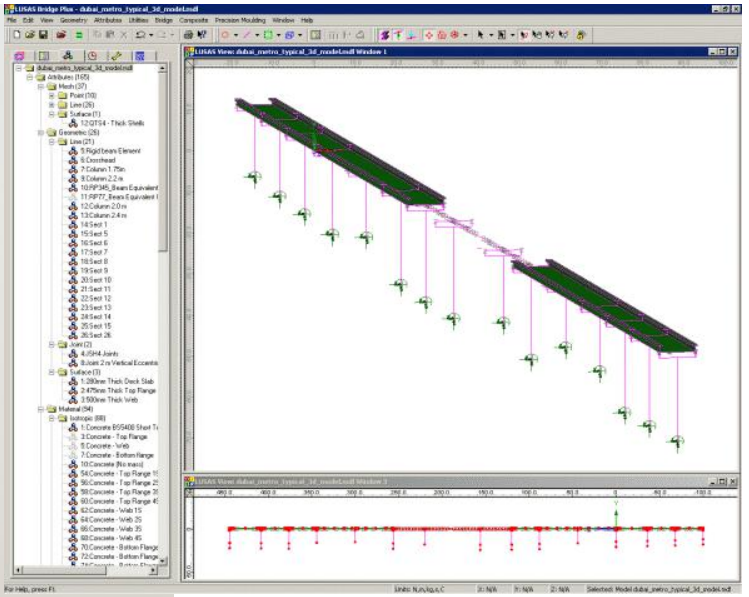
Faber Maunsell

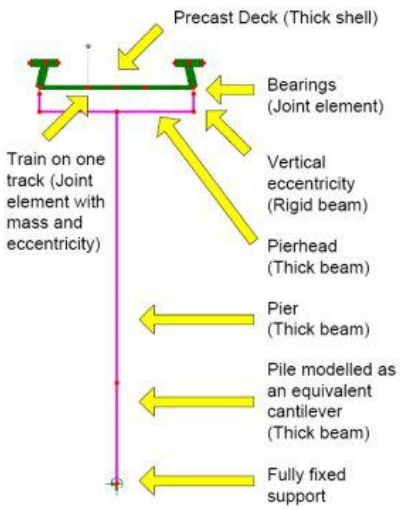
Honam High Speed Rail Bridge



Korean Rail Network Authority

Dubai Metro - Red and Green Lines





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DART Light Rail Bridges

Gannett Fleming

…for Footbridges

Dawlish station footbridge

London Olympic Park bridges

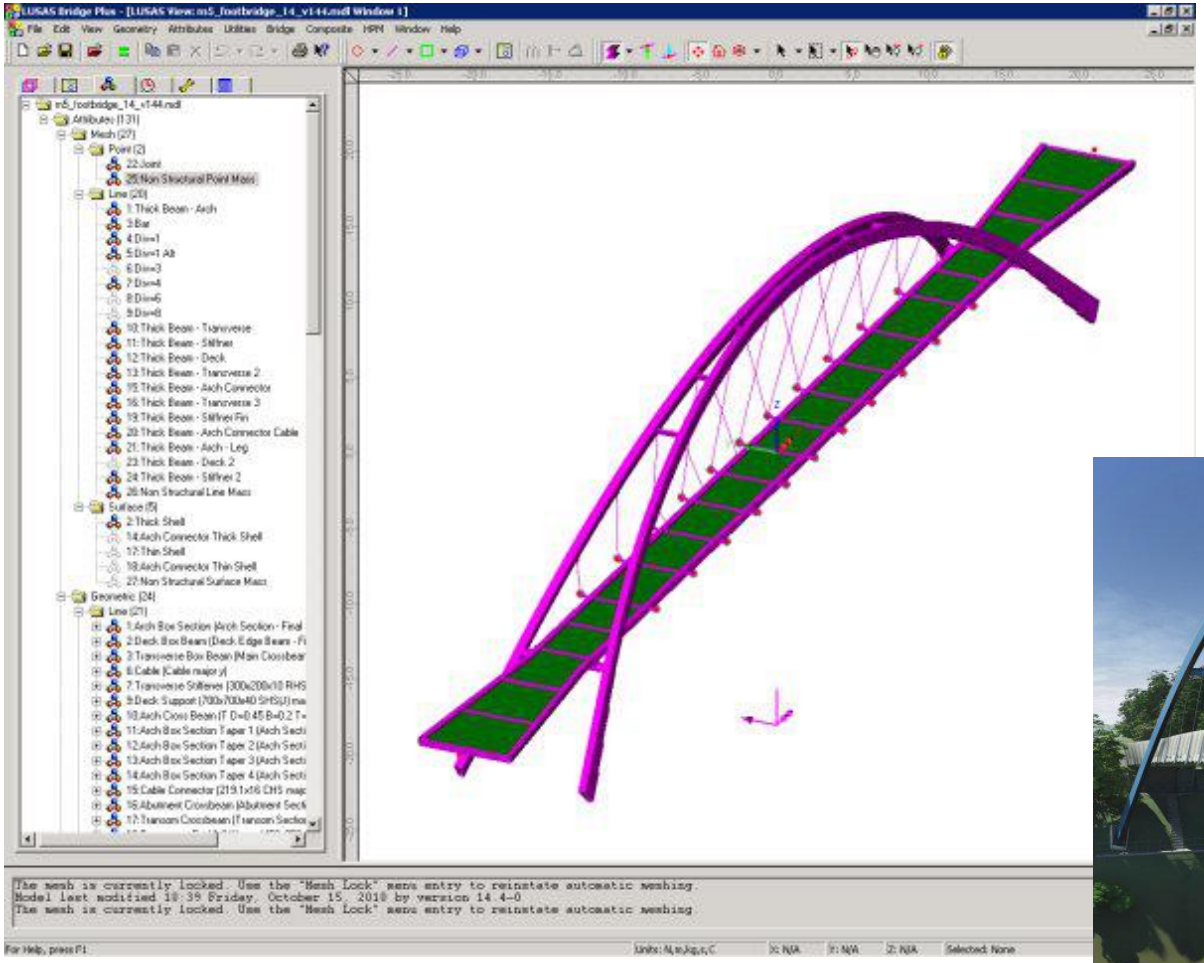
Navvies footbridge

Redhayes footbridge

Bagley Street footbridge

Baker Bridge

Redhayes Bridge



Parsons Brinckerhoff

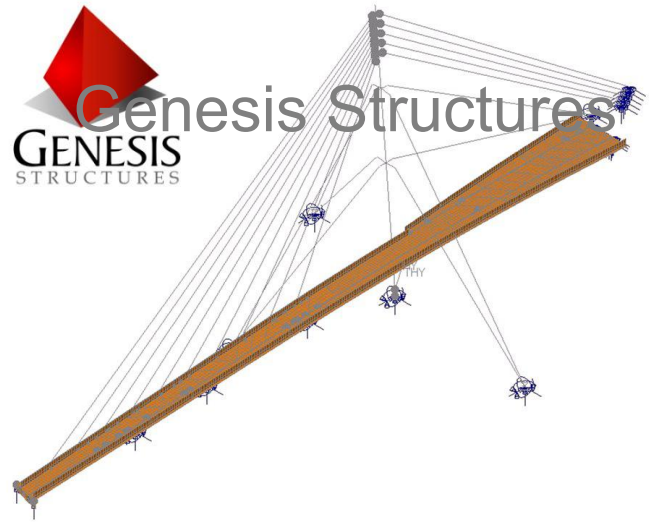
Redhayes Bridge

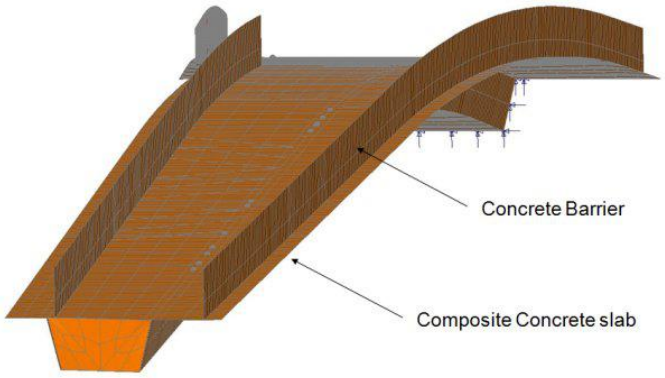
Parsons Brinckerhoff

Redhayes Bridge

Parsons Brinckerhoff

Bagley Street Pedestrian Bridge





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Genesis Structures

Red Gate Pedestrian Bridge

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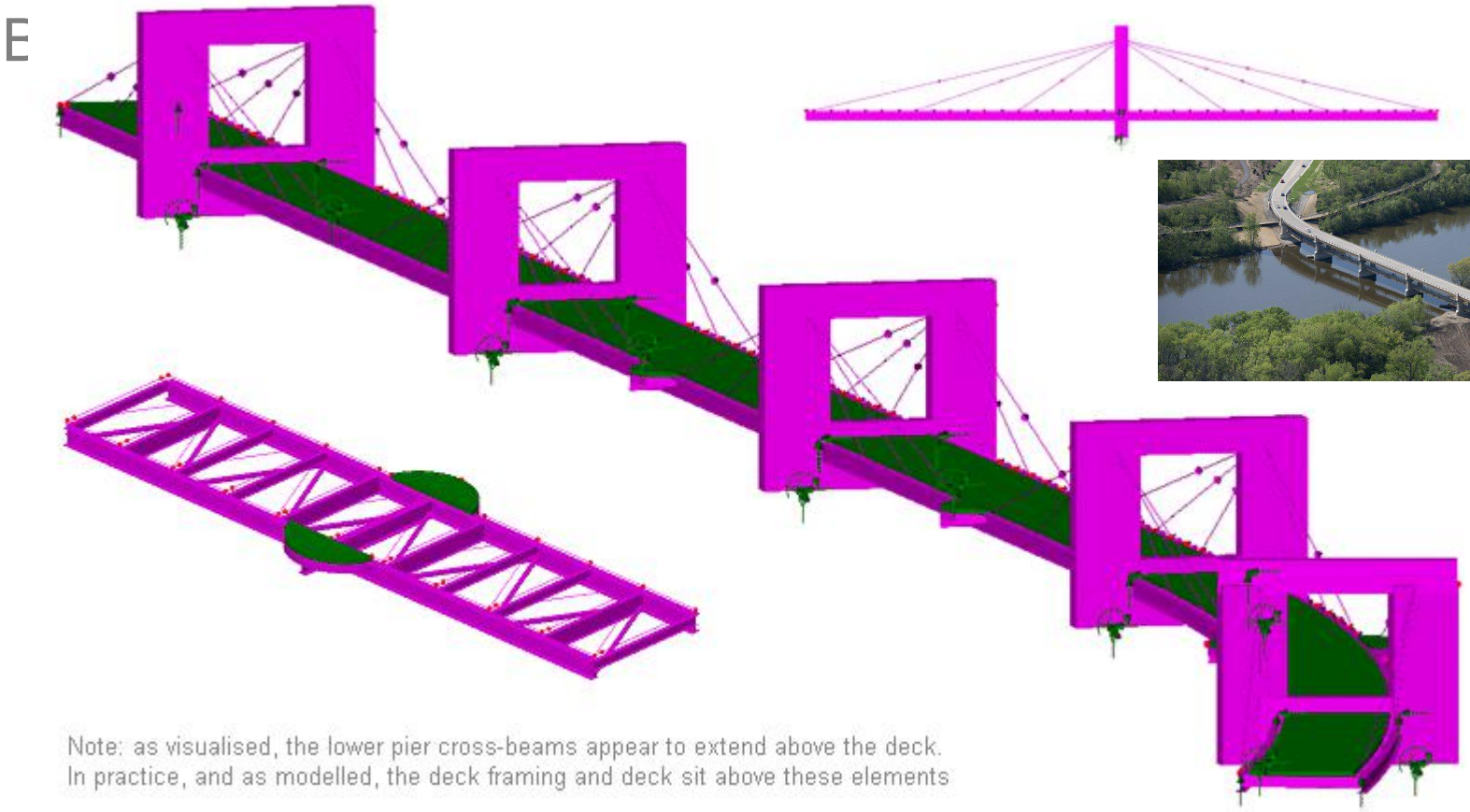
Benesch

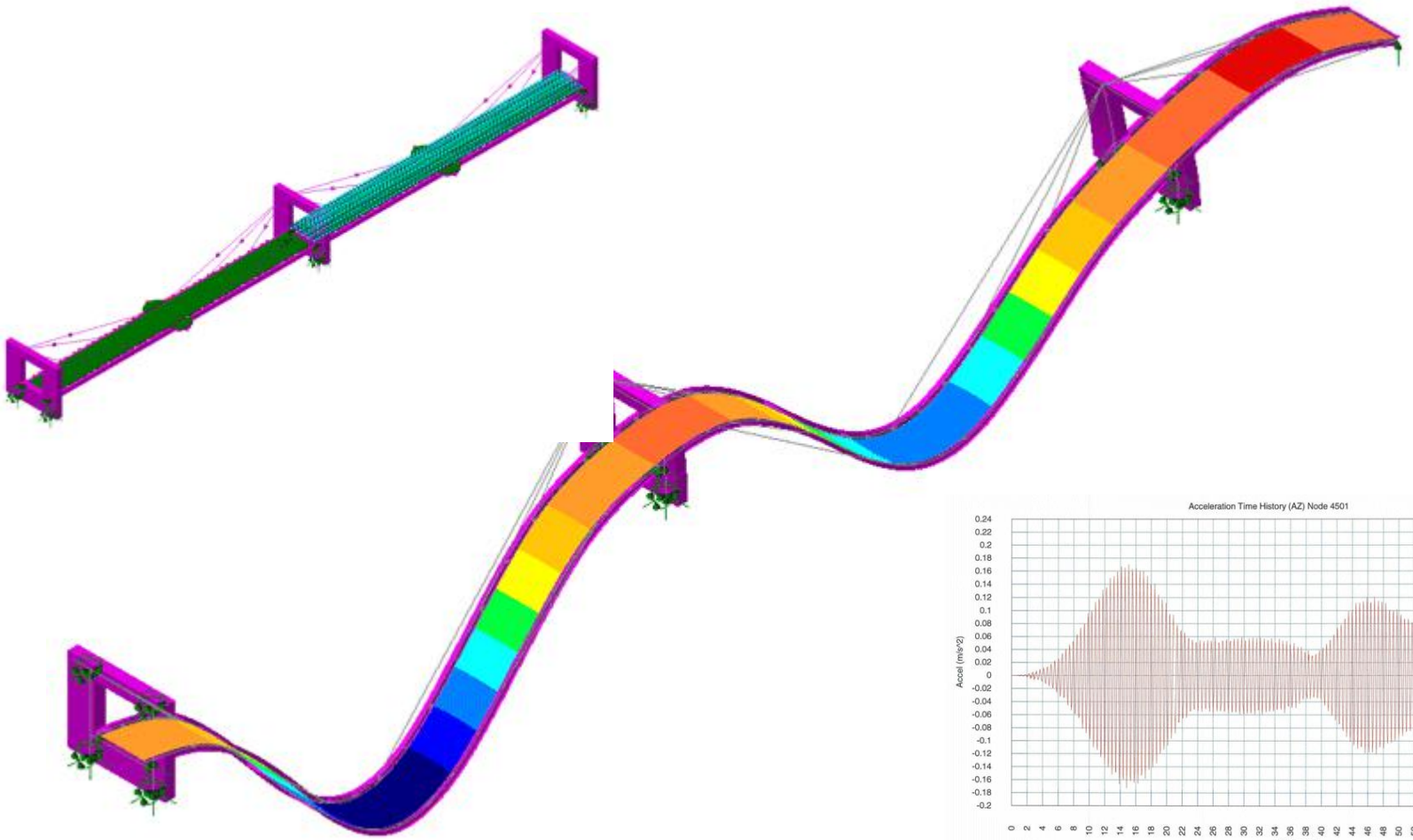
Red Gate Pedestrian Bridge



Note: as visualised, the lower pier cross-beams appear to extend above the deck.
In practice, and as modelled, the deck framing and deck sit above these elements

Benesch

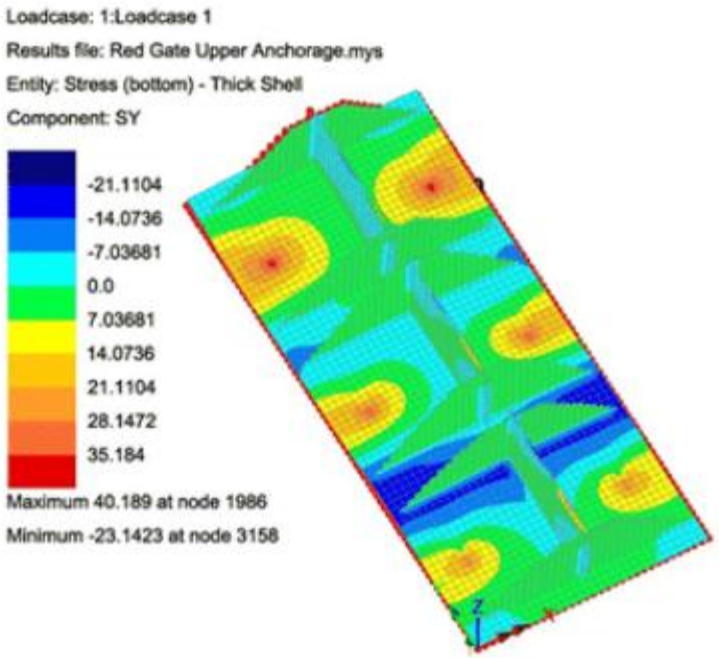
Red Gate Pedestrian Bridge



Benesch

Red Gate Pedestrian Bridge

Upper and lower cable connection details



LUSAS model of upper cable connection assembly

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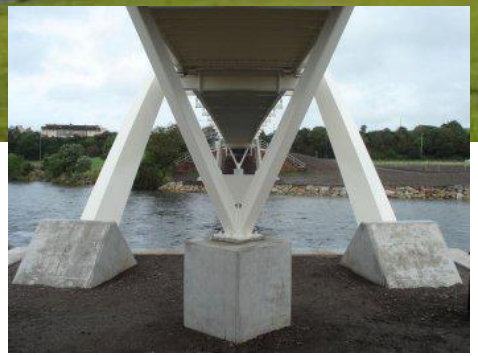
Navvies Bridge



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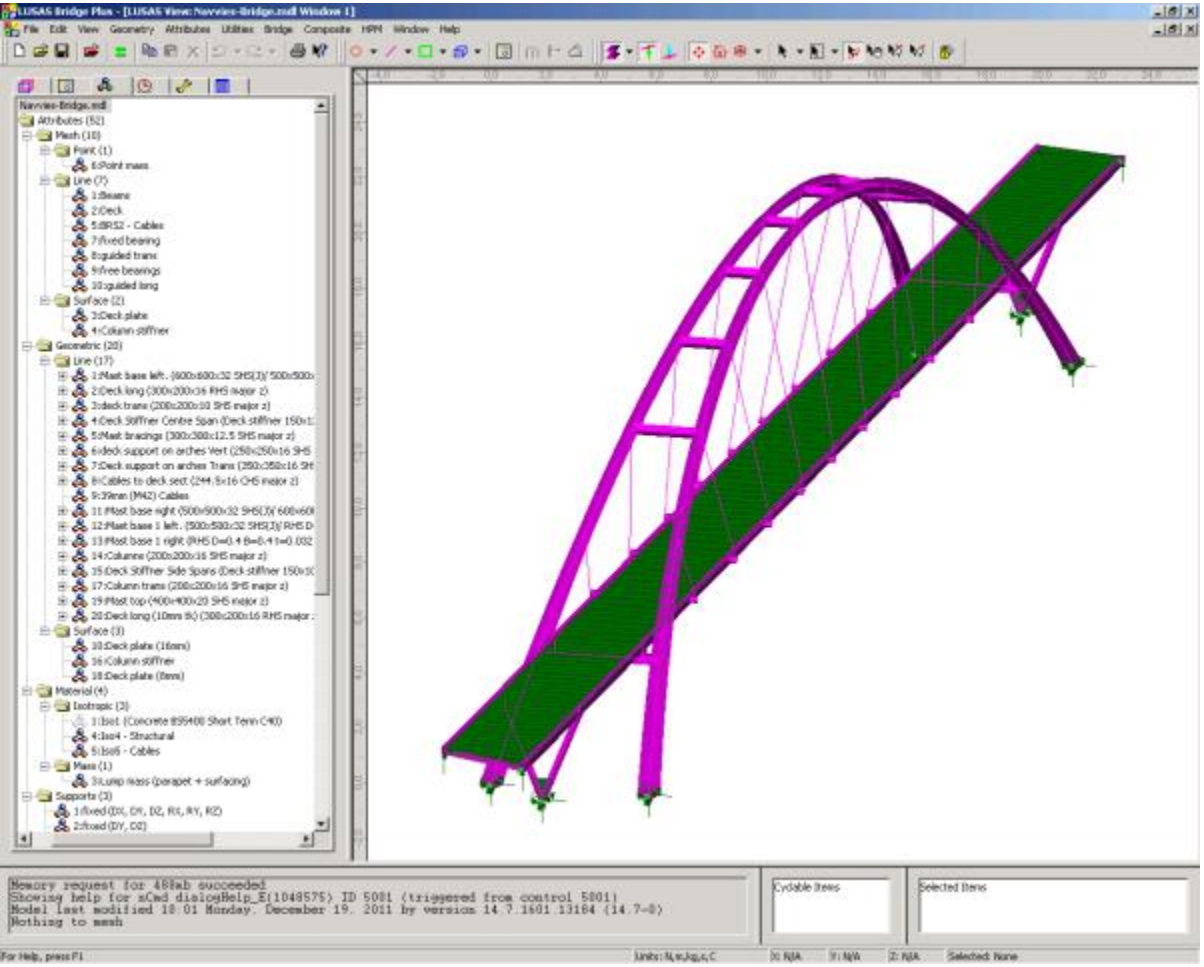
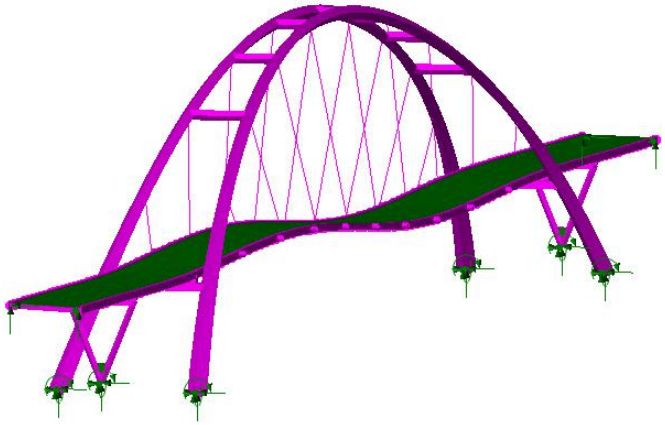
Capita Symonds

Navvies Bridge

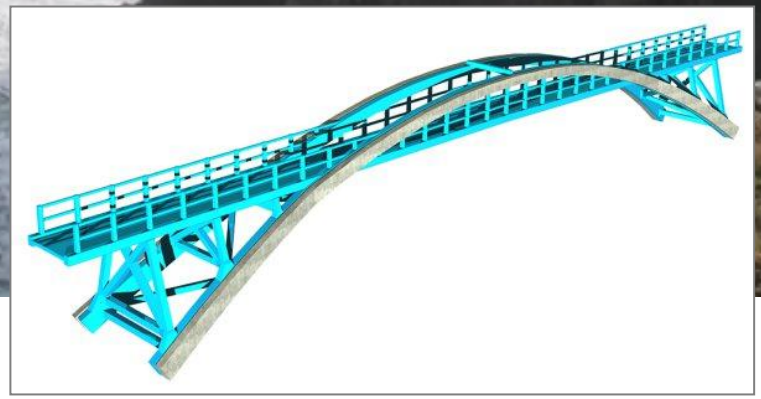




LUSAS

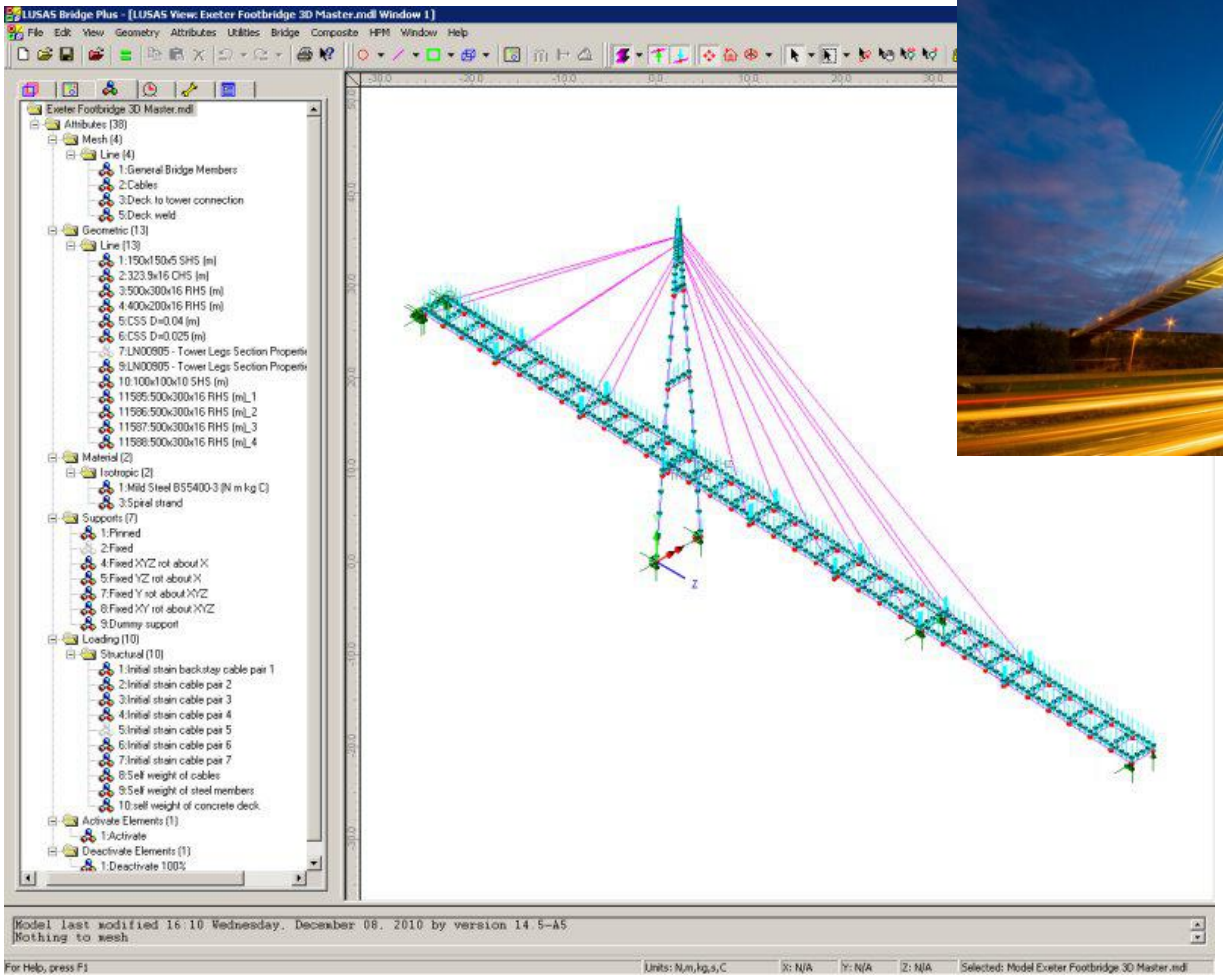
Capita Symonds

New Mizen Head Footbridge



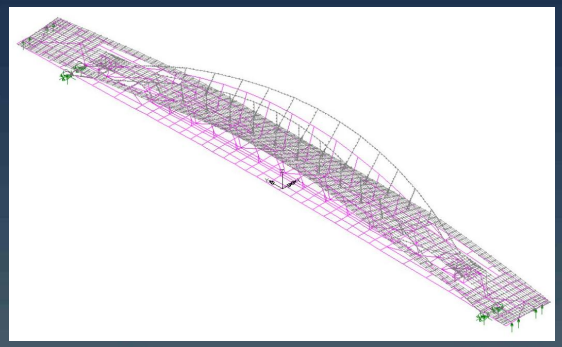
RPS Consulting Engineers

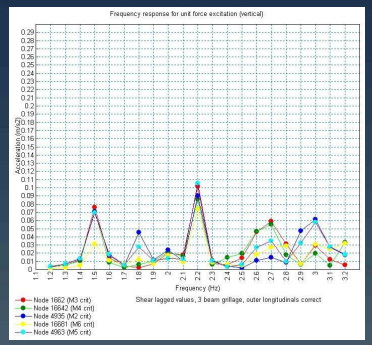
Baker Bridge



Hyder

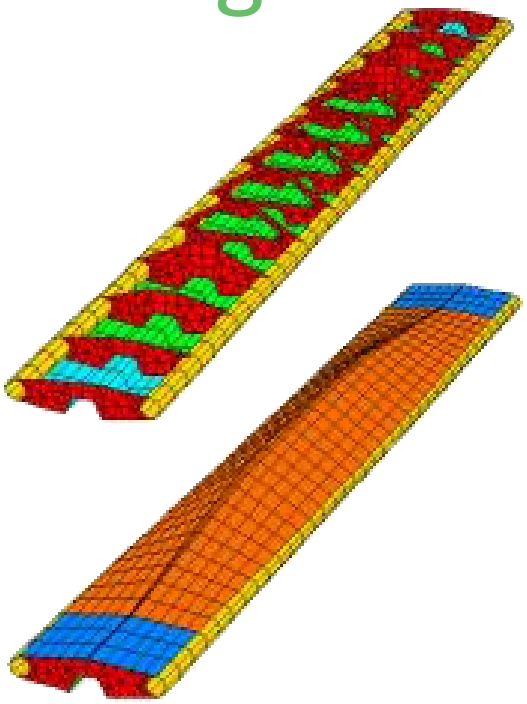
Ponte della Musica

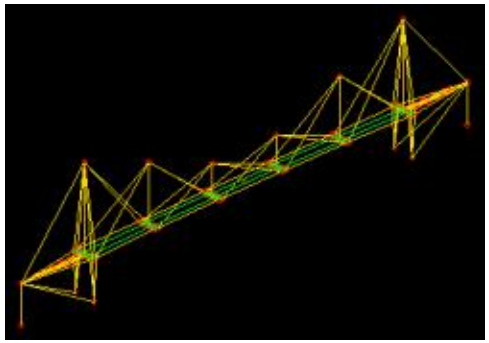




Buro Happold

Royal Victoria Dock Footbridge





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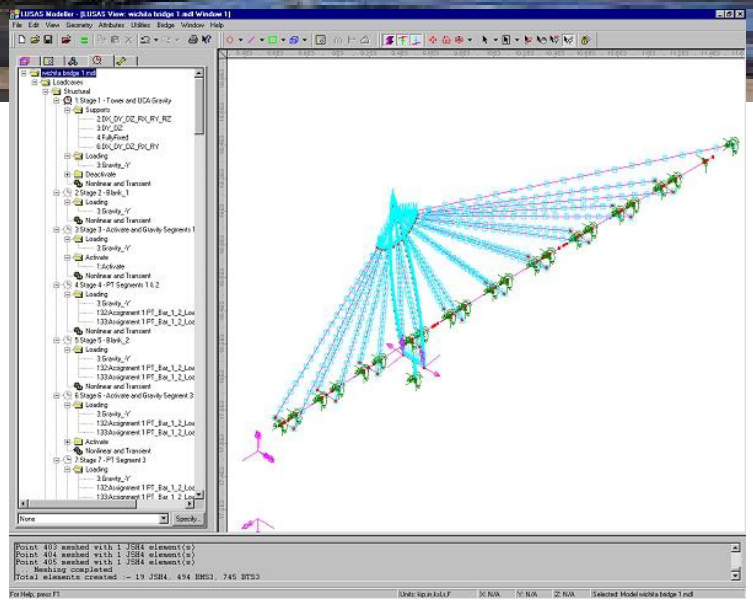
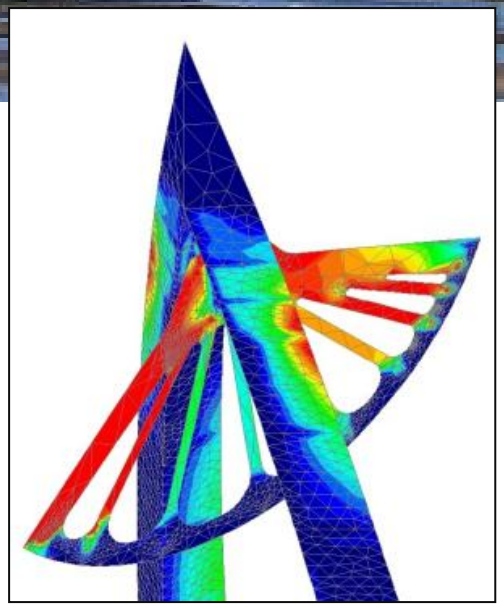
Techniker

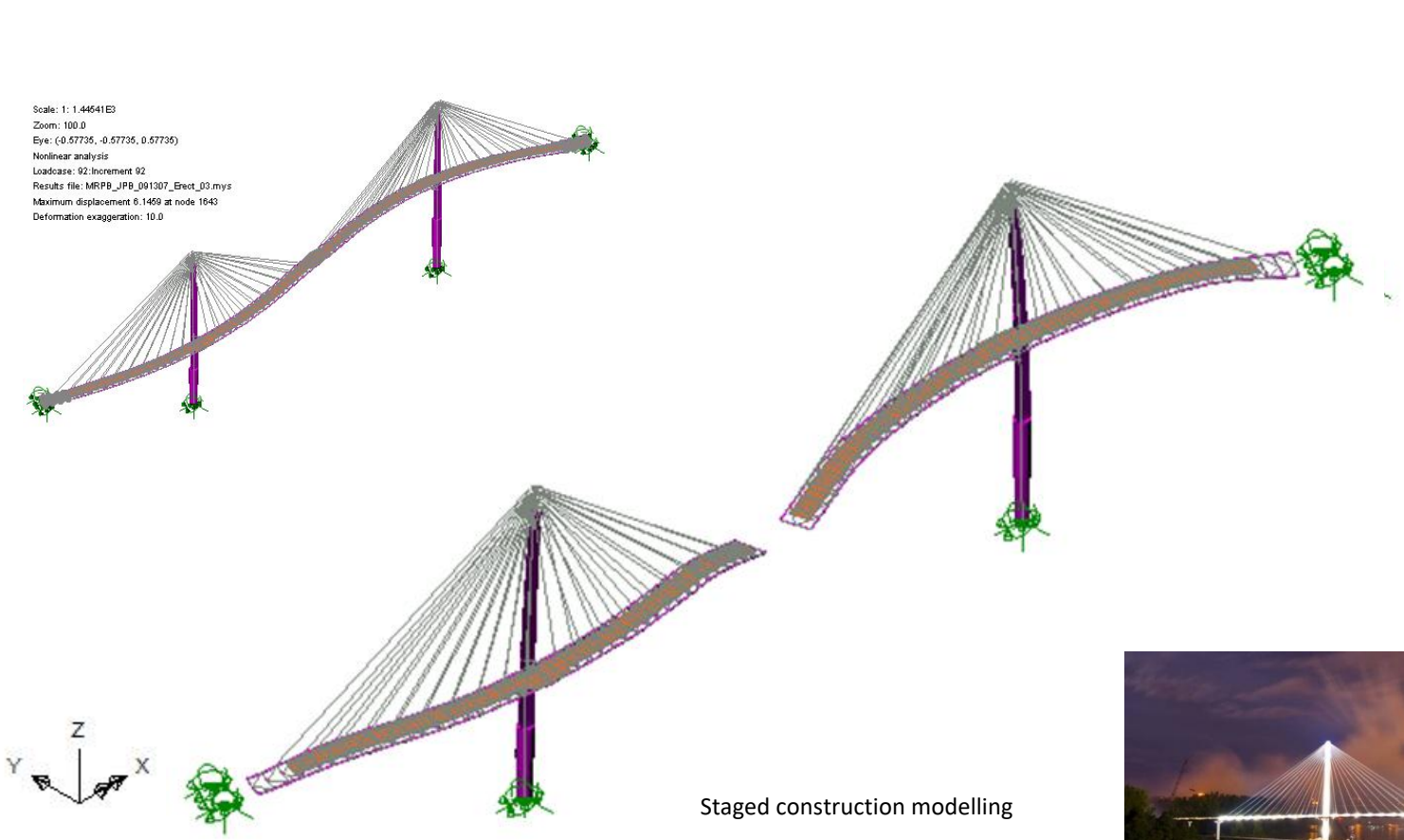
Wichita Footbridges

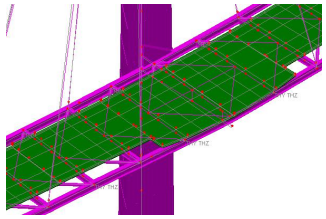




Genesis Structures

Omaha Footbridge

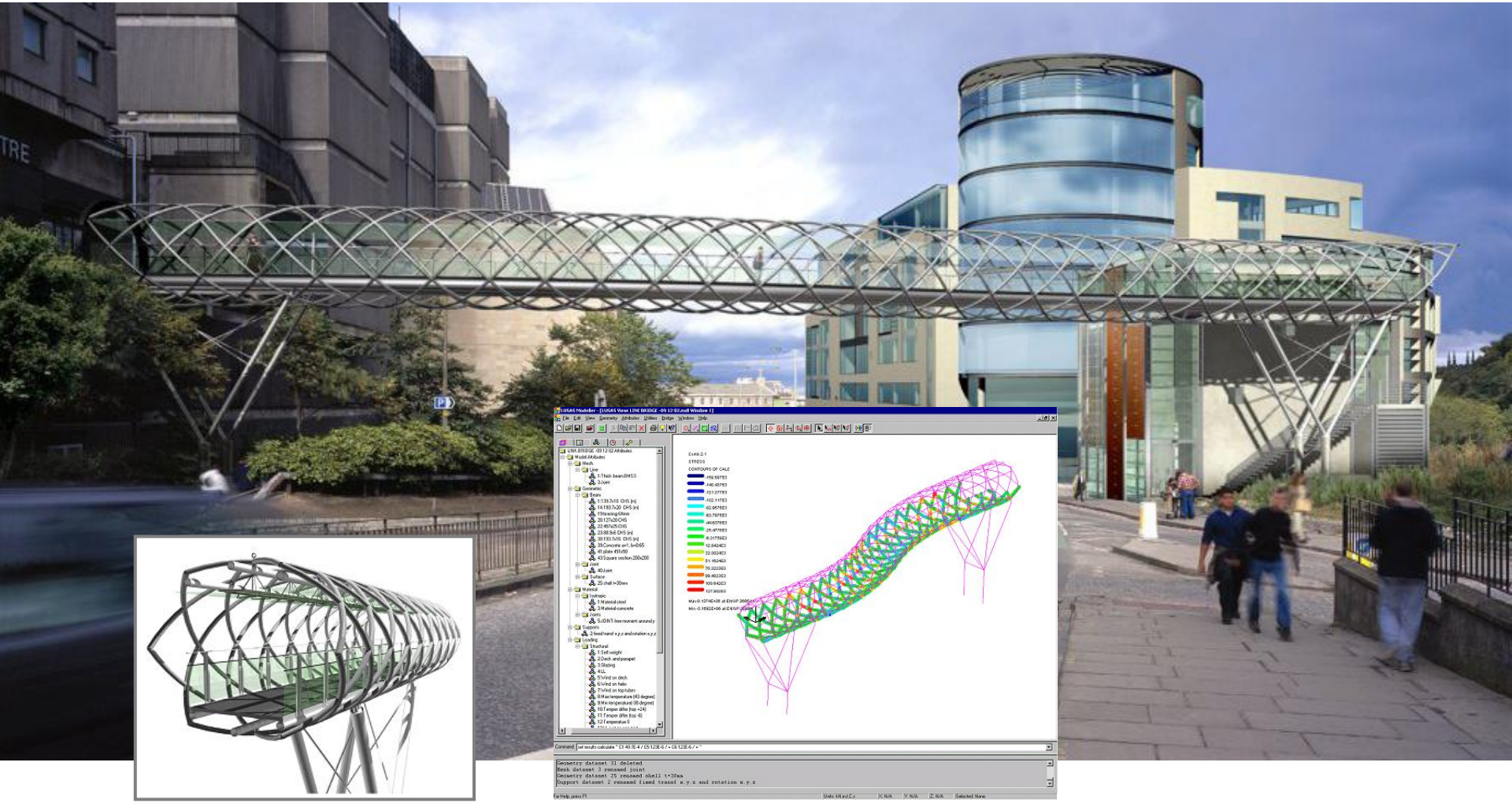




Staged construction modelling

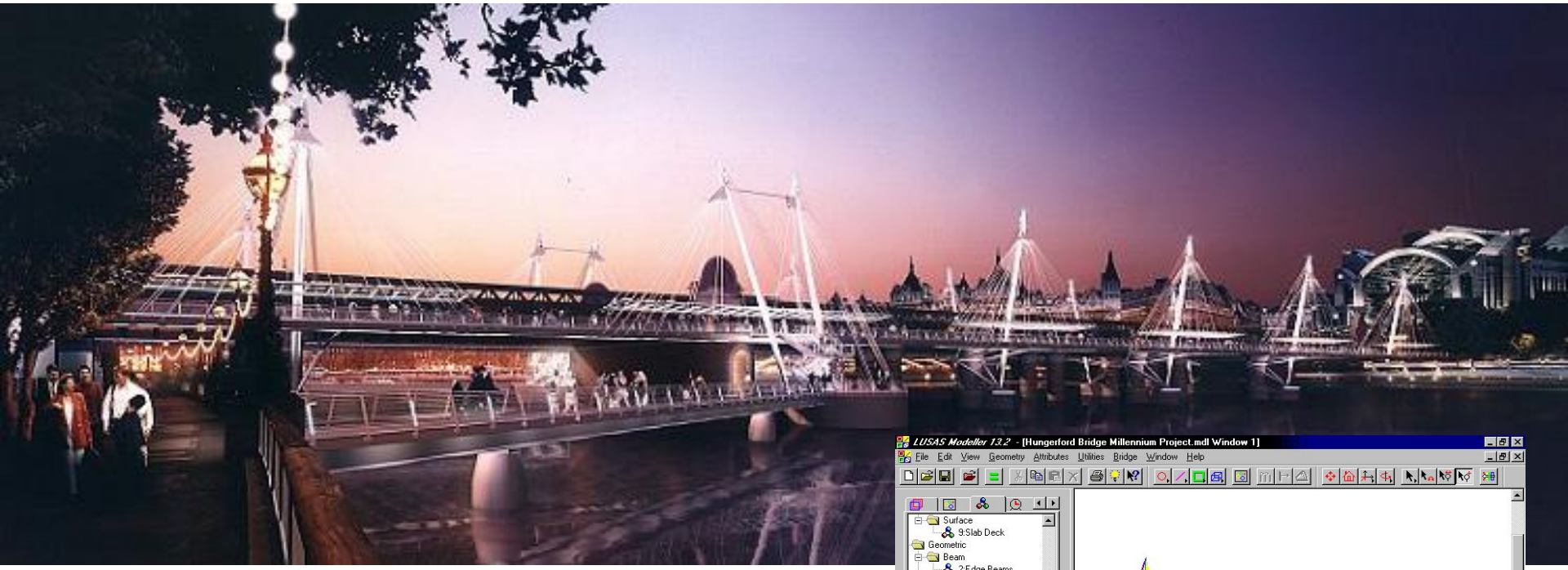
Genesis Structures

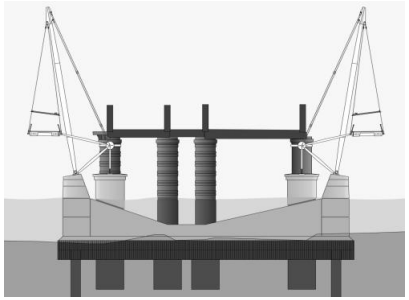
Greenside Place Link Bridge

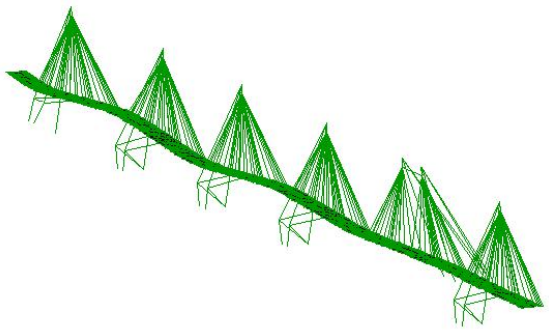


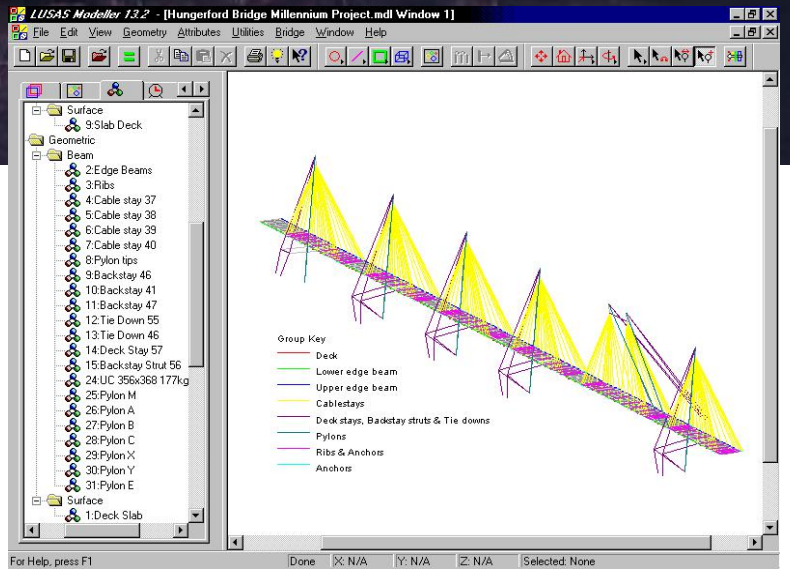
Buro Happold

Hungerford Bridge









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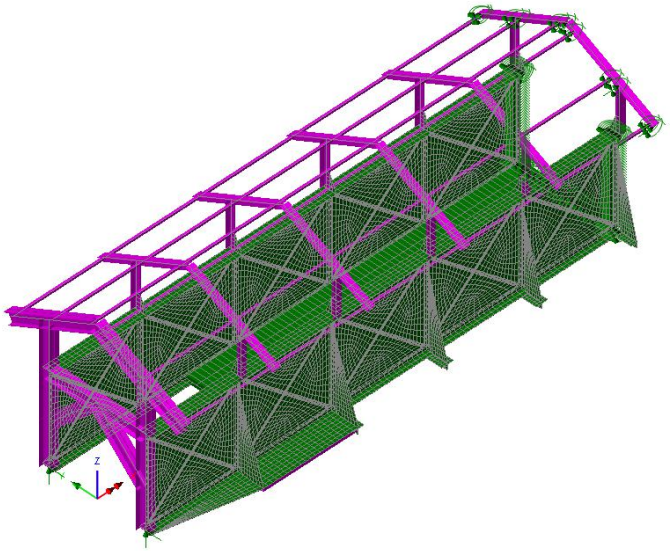
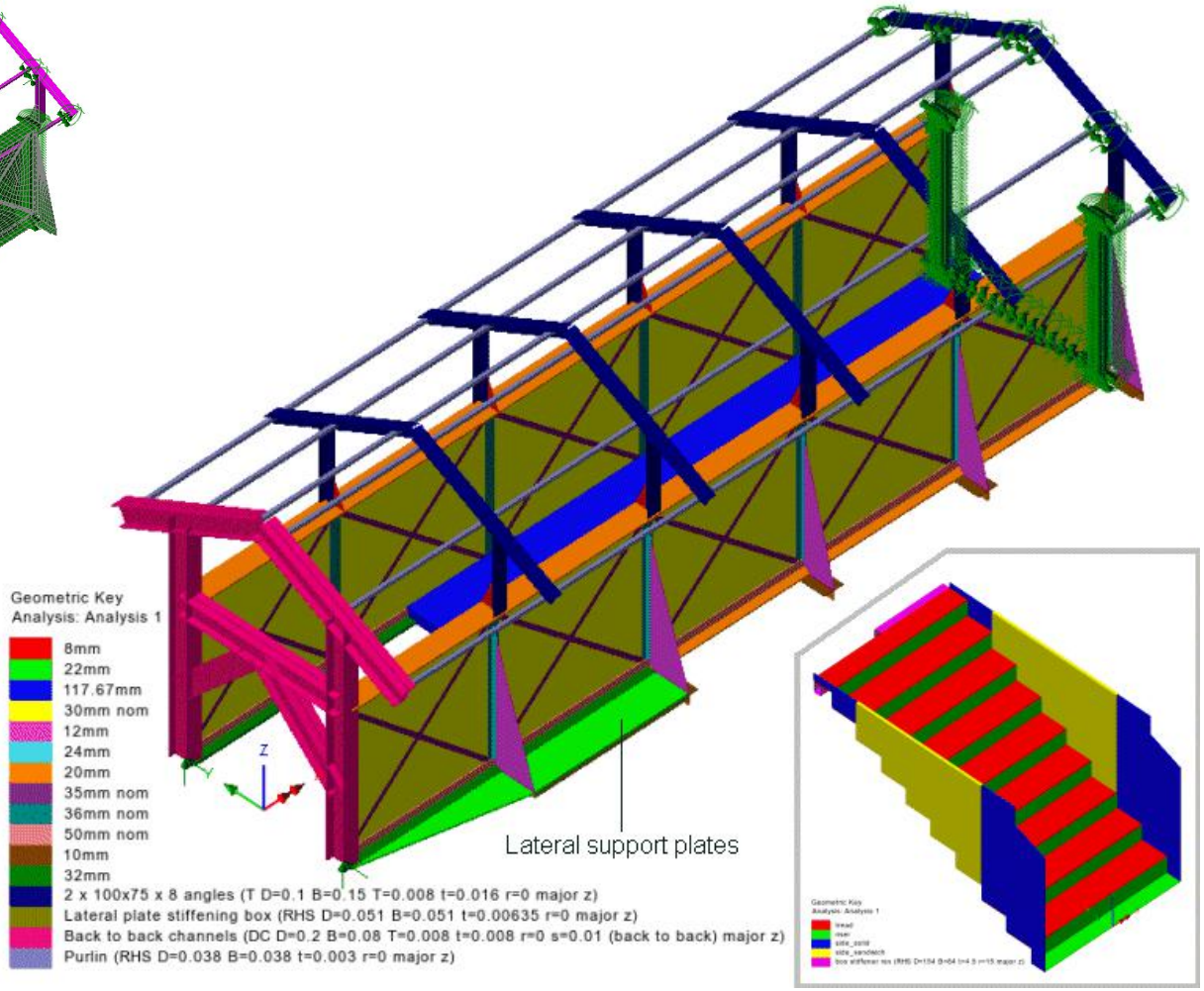
WSP Group

Dawlish Station Footbridge





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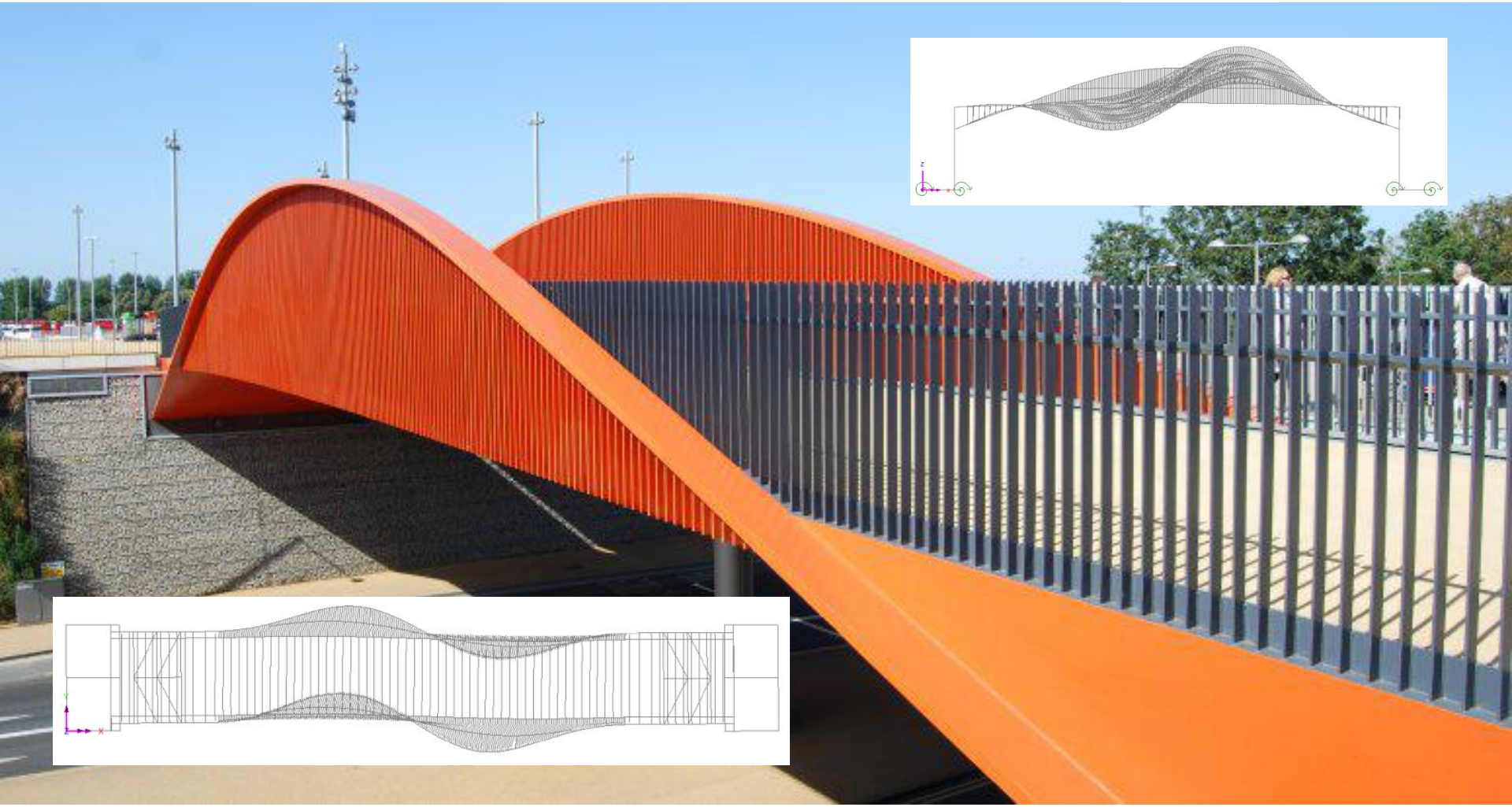
Tony Gee and Partners

Dawlish Station Footbridge

Tony Gee and Partners

London Olympic Park Bridges



Atkins

Glass Bridge

LUSAS

Ramboll

…for Movable Bridges

Chelsea Street Bridge

MediaCity Footbridge

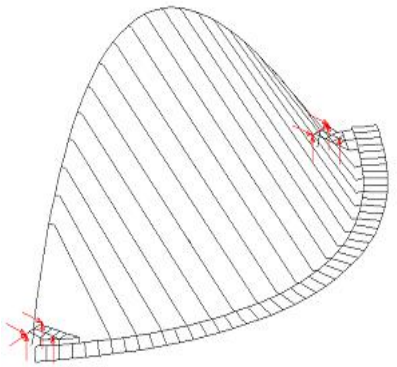
Interhavn Bridge

Gateshead Millennium Bridge

Twin Sails Bridge

Cathedral Green Footbridge

Gateshead Millennium Bridge



World's first tilting bridge

LUSAS

Ramboll

MediaCity Footbridge

Pedestrian swing bridge

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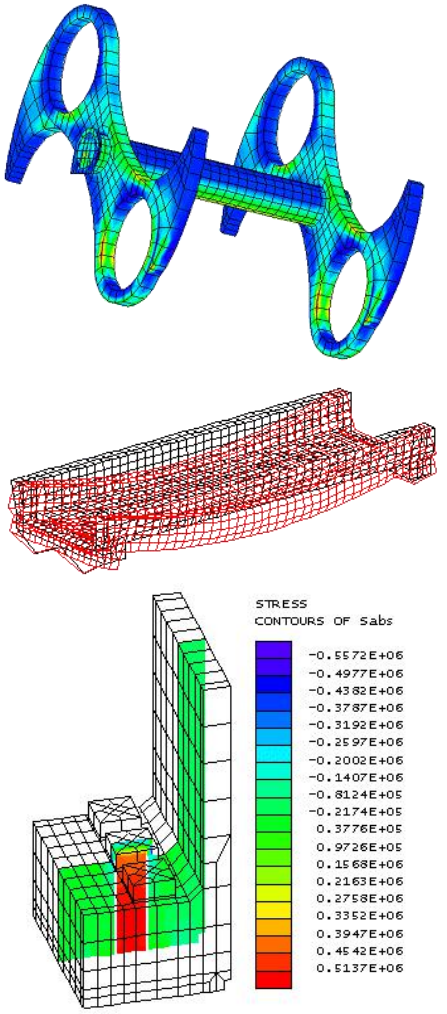
Falkirk Wheel



Unique rotating boat lift

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Tony Gee and Partners

Cathedral Green Footbridge

Asymmetric cable stayed swing bridge

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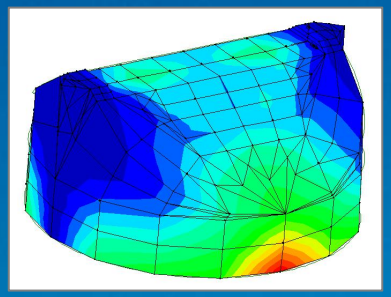
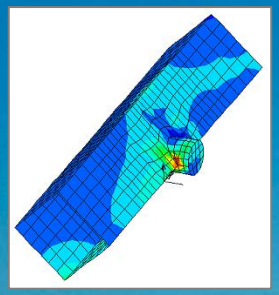
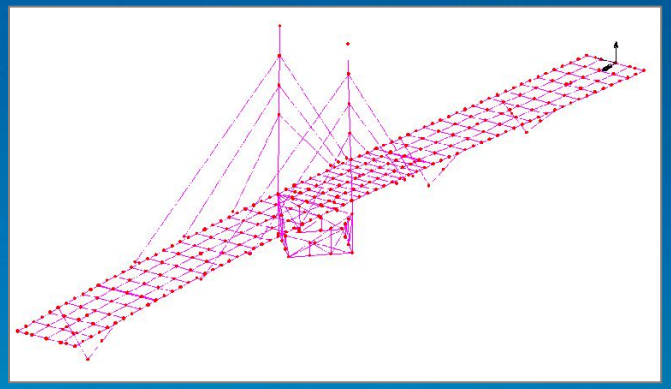
Ramboll

Novisad Swing Bridge



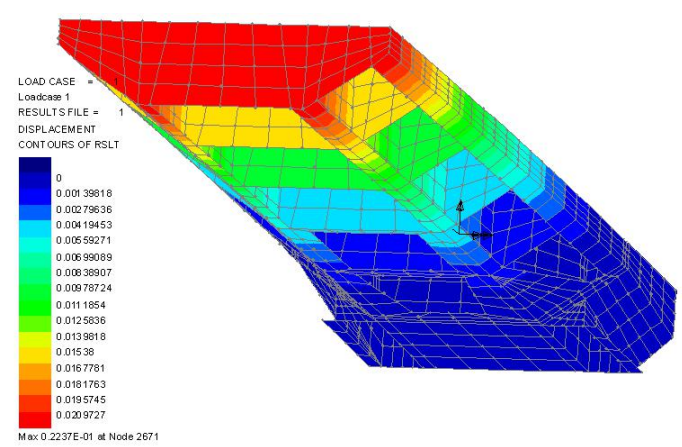


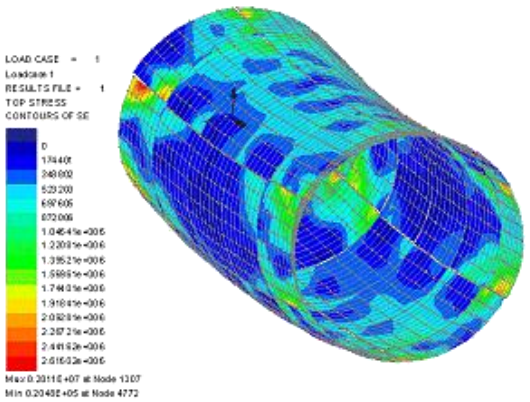


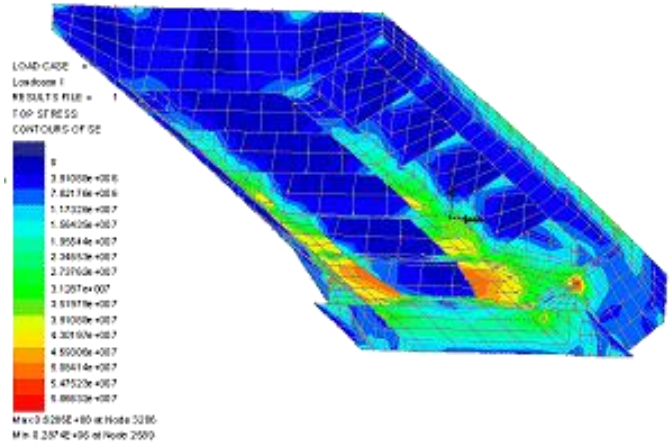
Cable stayed swing bridge

Buro Happold

Helix Bridge







Retractable footbridge

LUSAS

Davy Markham

Bellmouth Passage Swing Bridges

Box girder pedestrian swing bridge

LUSAS

Davy Markham

Wellington Street Swing Bridge

Historic swing bridge refurbishment

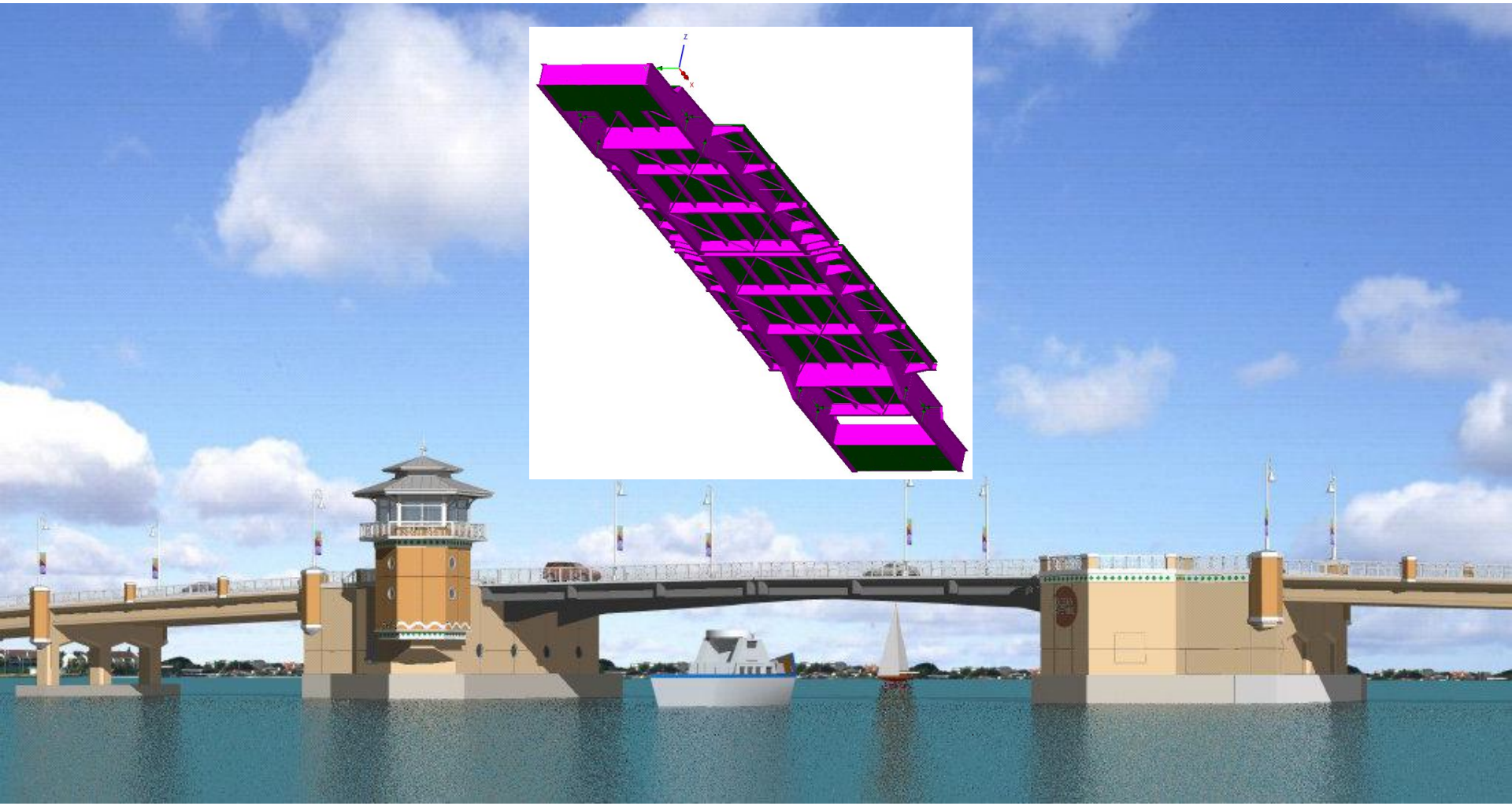
Pell Frischmann

Great Wharf Road Bridge

Tilting road bridge

Davy Markham / Ramboll

Ocean Avenue Bridge

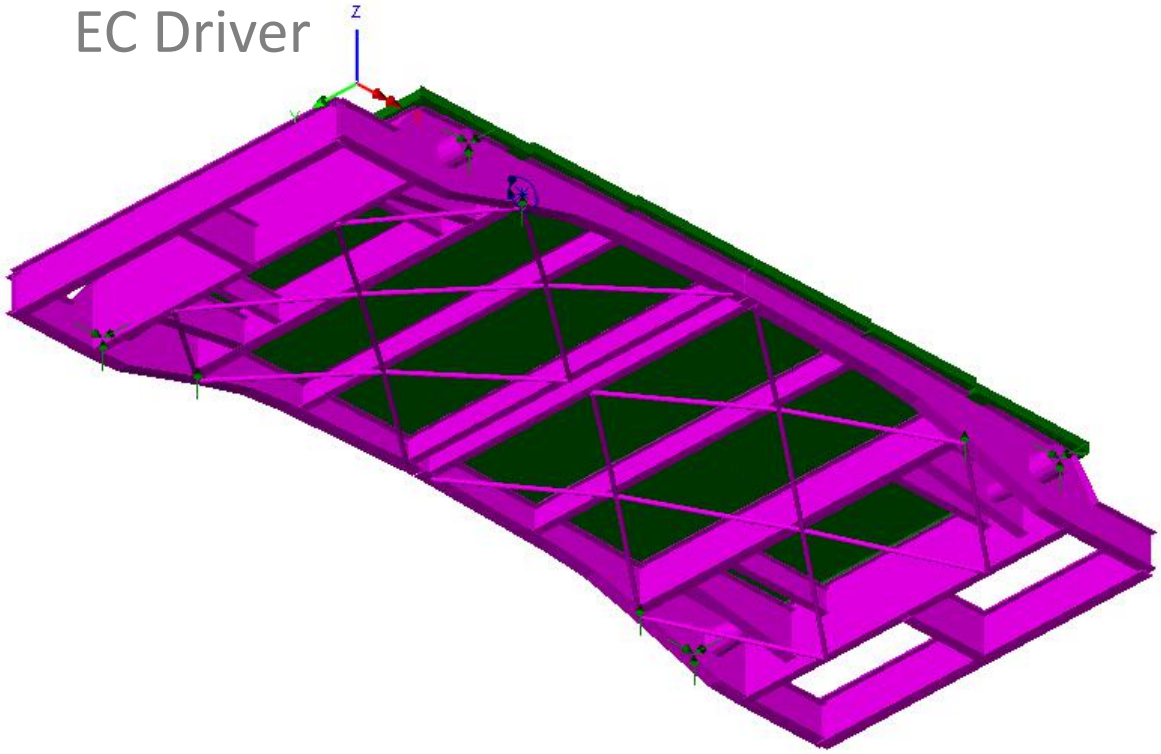


Double leaf trunnion bascule

EC Driver

Port Ferdinand Bridge

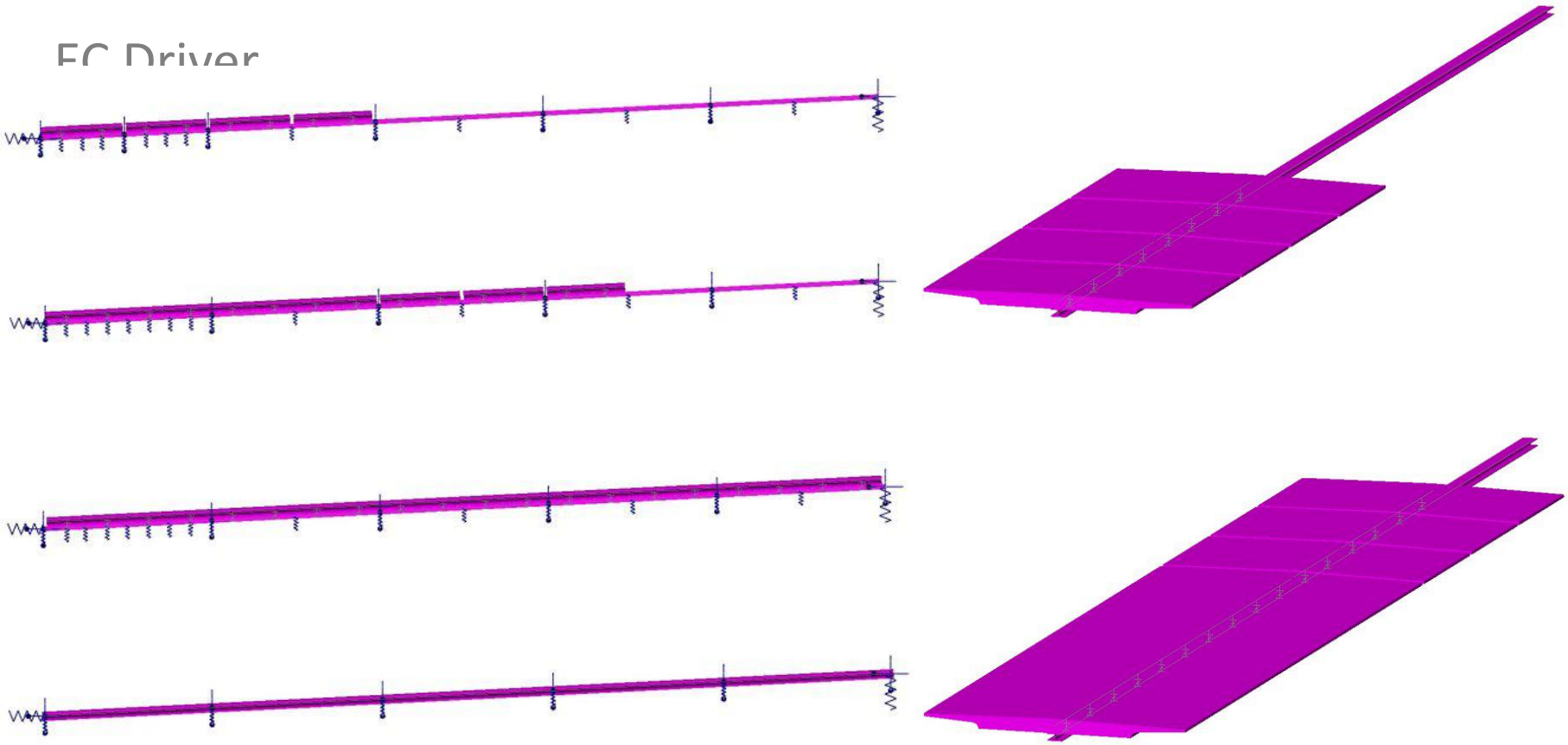
EC Driver



Double leaf trunnion bascule

EC Driver

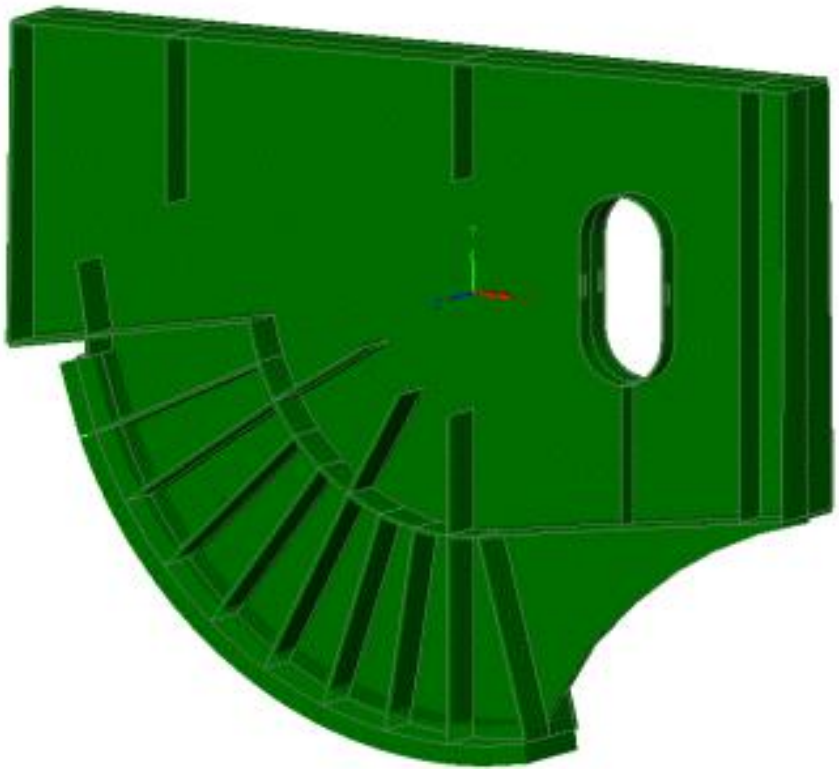
SR-80 Southern Boulevard Bridge

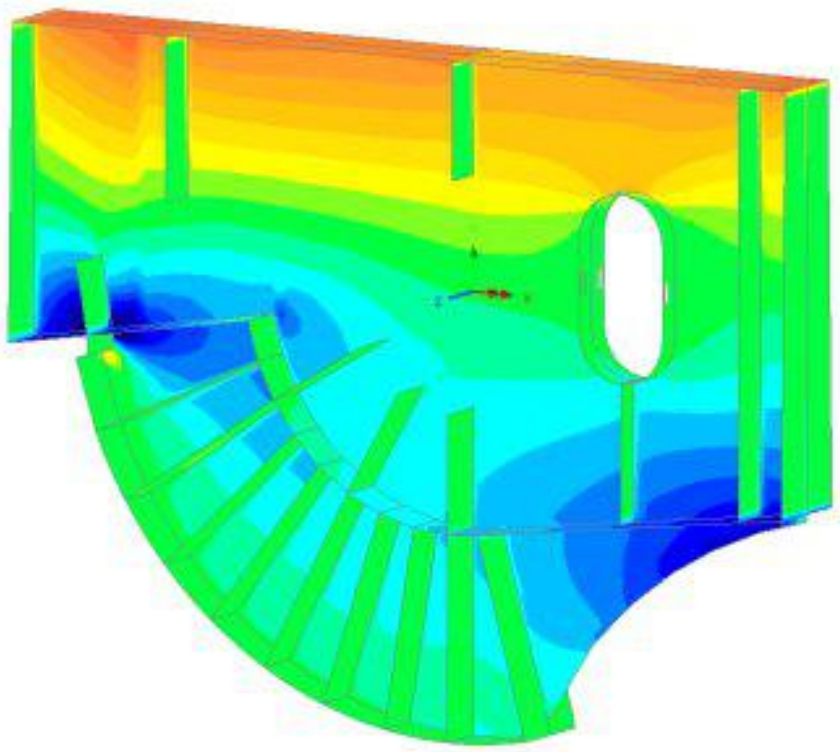


Double leaf trunnion bascule

EC Driver

SR-80 Southern Boulevard Bridge





Double leaf trunnion bascule

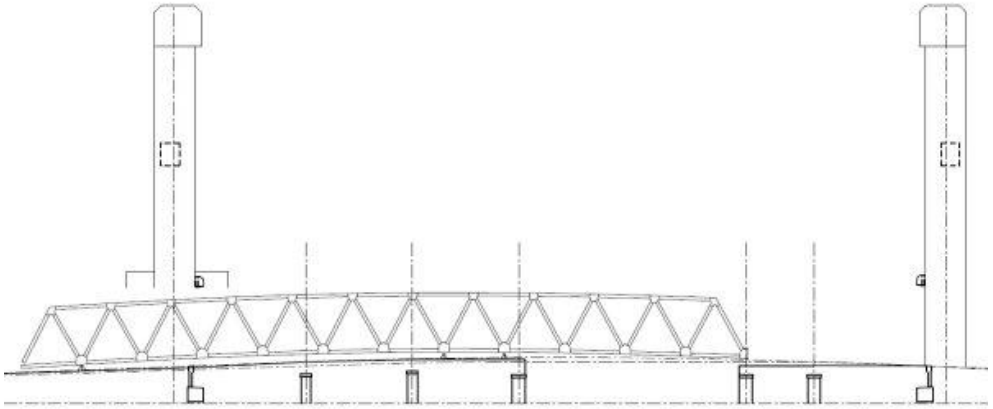
EC Driver

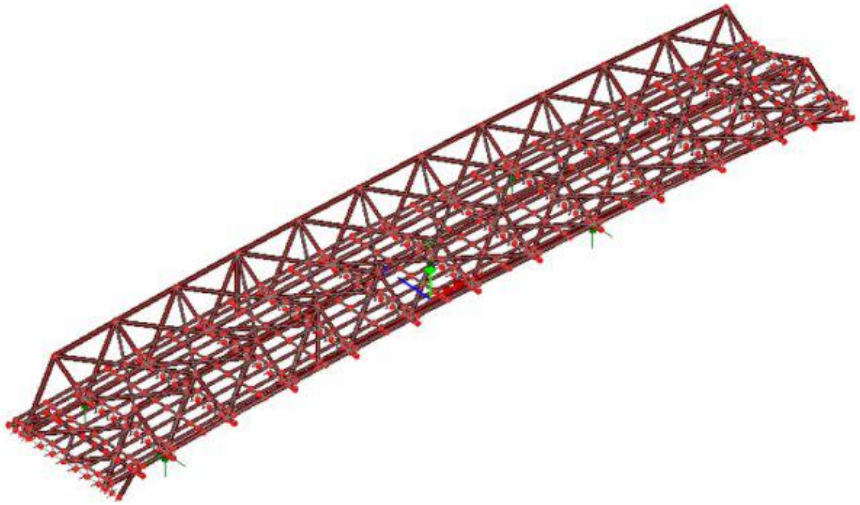
Chelsea Street Bridge

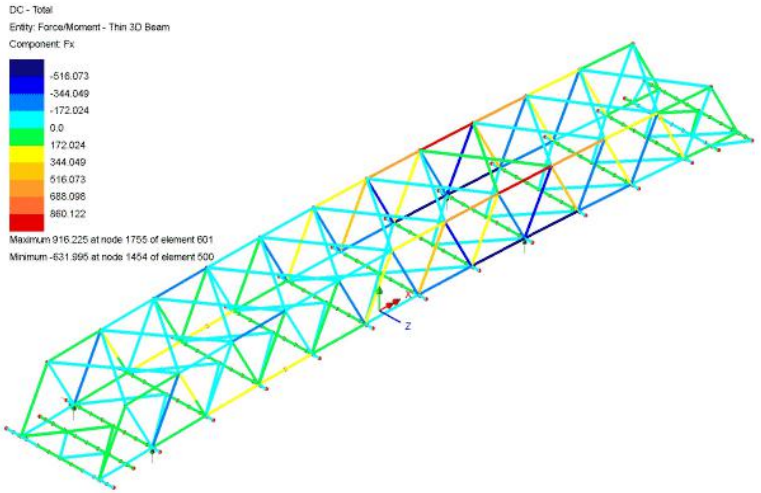
Floating barge bridge

Finley Engineeringc

Chelsea Street Bridge







Vertical lifting bridge

LUSAS

Finley Engineering

MediaCity Footbridge

Cable stayed swing bridge

LUSAS

Ramboll

Twin Sails Bridge

World's first triangular-leaf lifting bridge

LUSAS

Ramboll