

8) Isles of Scilly freight service Proposal for an alternative freight vessel

General comments

- 1) Nearly all sea freight to-day is transported using industry standard shipping containers, often loaded using Roll on Roll off systems, the containers themselves being packed and unpacked under cover at inland depots or at the customers' own premises, rather than at the dockside. Modern computer systems enable the shippers to trace and monitor the contents of each container. The container system coupled with a ROLL on ROLL off ship removes the need for multiple handling of cargo and minimises labour costs.
- 2) Many people imagine a "roll on roll off" (RoRo) service to mean a vehicle ferry. This is not so, today many containerised freight services load and discharge their containers and other freight using RoRo. The advantage is that no complex cargo handling equipment is needed, no cranes, no pallet hoists, no fork lift trucks, all that is required are container trolleys and a "Tug master" type tractor to pull the containers or stillages (like lorry backs) on and off the ship.
- 3) Working RoRo with tides normally requires an expensive infrastructure called a Link Span which brings the roadway level to the ship's access door
- 4) Another problem with RoRo ships is that the bow door arrangement is vulnerable in a seaway, and many use a door at the stern which enables a conventional bow structure and better sea keeping characteristics.
- 5) To dispense with the link span, a simple inexpensive conventional slipway can be used but normally this will not work with a stern door because the ship's propellers are vulnerable in the shallow water.

The Solution

- 1) Enter Seatransport designs with their Stern Landing Vessel, (SLV). This has a different drive arrangement, and enables the vessel to load and discharge to/from a conventional slipway through a stern door.
- 2) Slipways are very easy to construct at a much lower costs than piers or quays.
- 3) At St. Mary's all freight working could be removed from the quay to a suitable slipway site within the harbour area and at Penzance a slipway already exists
- 4) Coupled with the out of town depot at Penzance (and possibly at St Mary's) this provides a complete durable long term solution to the Isles of Scilly freight service, with minimal shore side infrastructure requirement and very low operating costs.
- 5) It is apparent that the Cornwall Council / Route Partnership committee, despite spending over £1Million on consultants fees, has never explored this simple low cost solution to the Isles of Scilly freight service.
- 6) A ship similar to the "Mathew Flinders" illustrated overleaf and suitable for all year round service on the Isles of Scilly route could be built for about £3.5 million.



Sea Transport SLV in action. The full length of the cargo deck can be covered in

Note “Mediterranean moor” using bow anchors

If the slipway is adjacent to a quay wall then the vessel can moor up to the quay in the usual way, or the slipway can have mooring dolphins down one side



The Mathew Flinders 35 metre commercial Stern Loading Vessel suitable for Isles of Scilly route. Capacity up to 300 tonnes of general cargo in industry standard containers and stillages, and 24 Passengers

8) Works at Penzance Harbour and St Mary's for freight ship.

The SLV is designed to operate from a conventional slipway. At Penzance a suitable slipway already exists and so no new works are required. The slipway is used by leisure users as well as commercial and some of the funds saved from the more expensive options should be diverted to making a second smaller slipway for ease of use by the sailing club and gigs etc.

There is a rudimentary slipway too at St. Mary's which could easily be upgraded with a shore side hard standing area, to facilitate rapid roll on roll off activity.



The slipway at Penzance, plenty of room for the SLV to load and discharge
And plenty of adjacent hard standing and manoeuvring space for approaching vehicles

10. Proposed new cargo service.

By using a separate cargo ship the service proposed here will be self financing and can be tailored to the needs of the freight customers both on timing of the voyages and handling methods without interfering with the needs of passengers or compromising their safety in and about the quays.

A big disadvantage of the existing service is that it generates a lot of road traffic in the harbour areas both at Penzance and on the islands. These are now both heavily used tourist areas and The Route Partnership/ Cornwall Council proposal does nothing to address this problem.

The nature of the service is that there are varying quantities of cargo at different times of year, and most arrives at Penzance during the day in small batches. Statistics are available but sufficient here to say that there are one or two customers who deliver larger batches (Lorry loads) on certain days. Other cargo comes as full loads on small vehicles (transit size) and the rest comes as part loads on much larger lorries. At present all these vehicles approach the quays from wharf road Penzance, and this causes congestion and disruption in the adjacent area, as do lorries having to queue on the highway to await access to the quay to unload.

Similar congestion arises at St Mary's quay and in Hugh Town due to all the traffic having to travel through Hugh Town to access the quay to collect and deliver cargo.

As explained at section 11, the problem is exacerbated at Penzance by clutter on the quays and incompatible business use of some of the buildings. Similarly at St Mary's there are commercial tourist related businesses operating on the quay adjacent to the cargo handling area.

Basically this is a conventional "store and forward" logistics system with at present the ship being used as the store at Penzance when alongside and the open quay used at other times. The Cornwall Council proposal is to build a store on reclaimed land to the seaward side of the South pier adjacent to the Listed Jubilee Swimming pool and the battery rocks, and then move the stuff from store to the quay when loading. This solution does not address the road traffic problem in any way, will cost £14 Million, and would be visually intrusive at this sensitive waterside area and would involve a large number of fork lift truck movements of about 200 metres each time the ship is loaded and each crossing the pedestrian access path to and from the ship. This will be a logistic nightmare.

My scheme proposed here addresses all the current problems but at minimum cost using existing facilities. The main tenets are:

The freight operator takes over one of the vacant sites at Long rock industrial estate. This area has excellent vehicular access, avoiding the town and busy streets. The defunct cattle market would be ideal as it has direct access to the main road with an existing visibility splay, or unit 18, which is an ideal site could be obtained from the SW Regional Development agency, for about £700,000



Unit 18 at Long rock all ready to roll as a store and forward depot

The cargo system is changed from direct pallet handling to use of standard size 20 foot containers.

All goods with a few exceptions, see below, are received at the Long Rock depot and packed into the containers, either on pallets, or as individual packages. At the end of the day the containers are taken on trolleys to Penzance harbour and driven straight on to the freight ship at the slipway. Normally not more than 10 containers are needed per voyage, thus greatly reducing the traffic flow in and around Penzance harbour front. Two containers would need to be freezer (“reefer”) units for carrying frozen and chilled food. In the busy summer months these vehicle movements could be scheduled to avoid heavy traffic times, thus further reducing traffic effects. Empty return containers would be taken back to the Long Rock depot at the same time.

A few customers send large quantities on certain days, for example the Co-op and St. Austell Brewery. The present system and that proposed by Cornwall Council requires triple or quadruple handling of these goods. Under my proposal the designated container would be taken to the mainland Co-op or brewery depot for direct loading there, and shipped direct to the customer on the Islands. Similarly for the main builders’ merchants, the “Isles of Scilly” lorry would pick up goods direct into the container at the customer’s depot.

Motor cars and other vehicles would be loaded direct at the quay at loading time.

Similarly beasts and other livestock would be carried in a specially adapted container for transport in both directions

At St Mary’s the containers would be driven directly off the ship and taken to a new distribution depot

located out of town, say at the industrial estate. The Company used to own a building there suitable for the purpose, or a new facility could be provided by the Duchy of Cornwall and rented to the freight operator. Customers would no longer collect and deliver goods at the quay side. This will reduce the amount of traffic on the quay and through the town. There would be no need for customers' vehicles connected with mainland freight to visit the quay.

Council Staff have put it about that 20 foot containers cannot be handled on St, Mary's. This is not true there is no problem with them, and long flat bed vehicles already circulate on the Island without difficulty.

By use of modern proprietary logistics software at Penzance, general cargo can be packed into containers at Penzance and a supporting manifest produced in such a way that the container can be used on the Islands for direct discharge to customers premises on an orderly freight round as is common now on the mainland. This again will substantially reduce traffic on the Islands.

Off island containers, normally 10 foot size, will be discharged direct to the launch / landing craft.

The freight service would load at Penzance on the PM tide and sail overnight and discharge at St Mary's say from 7 AM. Load and discharge would be rapid, and hence the vessel would vacate the slipway at St Mary's by 9.30 AM and return to Penzance in time to load there on the next tide. This schedule would be possible at all states of the tide, because low water neap tide in this area is early morning and late afternoon.

In the off peak season and over winter, there is no need for a daily freight service, and the ship would operate 3 times a week as now but more frequently if and when needed.

20 foot containers are an industry standard and easily obtainable as is quay side and on board handling equipment, being standard the costs are lower. Cargo ships geared for standard container handling are readily available. A big negative with Isles of Scilly cargo in past years is that the ships have been designed around non standard equipment.

Proprietary vehicles of the "Tugmaster" type are available for moving 20 foot containers in depot, and for loading on to the SLV and as the distances are small these could be used for all container movements. These are small vehicles much suited to the Island environment.

On St Mary's, the existing cargo area on the quay would be released for other tourist related uses, and other advantages are:

Cargo handling can be carried on without disturbance to residents at Hugh Town.

The handling work will be well away from the general public, thus enhancing Safety criteria.

The tugmaster vehicles will be able to avoid the populated town when circulating to and from the depot

Nearly all freight related traffic will be removed from the narrow streets of Hugh Town and the Quay

A suggested working flow is set out overleaf

PENZANCE FREIGHT DEPOT WORKING		
Isles of Scilly service see below for a typical manifest inventory		
ROUTE PARTNERSHIP SCHEME	ROUTE PARTNERSHIP SCHEME	TRYTHALL SHIPPING SCHEME
USING BATTERY ROCKS SITE ONE SHIP SYSTEM	USING OUT OF TOWN DEPOT ONE SHIP SYSTEM	USING OUT OF TOWN DEPOT TWO SHIP SYSTEM, crane or RoRo
Goods loaded on to consignor's transport	Goods loaded on to consignor's transport	Goods loaded on to consignor's transport
Lorry/ van drives through Pz to battery rocks Depot (early AM in some cases)	Lorry / van goes straight to Long rock Depot during normal working day	Lorry / van goes straight to Long rock Depot during normal working day
Goods unloaded from lorry into depot	Goods unloaded from lorry into depot	Goods unloaded from lorry into depot
Documents prepared and details entered into computer system	Documents prepared and details entered into computer system	Documents prepared and details entered into computer system
Goods put into pallet boxes, or shipping containers.	Goods put into pallet boxes, or shipping containers.	Goods loaded into appropriate shipping container according to consignee's address
6 AM NEXT DAY pallet boxes and containers loaded onto transport and driven ¼ mile along the open quay to shipside could be up to thirty boxes.	6 AM NEXT DAY pallet boxes and containers loaded onto transport and driven to the Quay to shipside could be up to thirty boxes.	4.30 PM SAME DAY Containers (max 8) loaded onto transport and driven to the quay to shipside.
At shipside pallet boxes forked off transport and loaded into ship using pallet hoist, containers craned into hold.	At shipside pallet boxes forked off transport and loaded into ship using pallet hoist, containers craned into hold.	At shipside ships crane lifts and places containers into hold or if RORO driven straight onto the SLV
In the hold, dockers move boxes into secure stowage and move containers away from plumb of crane and secure in place (passenger ship hold)	In the hold, dockers move boxes into secure stowage and move containers away from plumb of crane and secure in place (passenger ship hold)	In the hold ships crew secure containers in place, no moving required as crane plumbs the hold. (cargo ship hold) Or if SLV secure Trolleys and vehicles ready for sea

At St. Mary's		
9.30AM ship departs PZ and arrives at Scilly at 12 noon and discharges passengers.	9.30AM ship departs PZ and arrives at Scilly at 12 noon and discharges passengers.	6.30 PM same day, ship departs PZ and arrives at Scilly by 6AM next day
12.30 PM in the hold dockers move boxes to pallet hoist and containers to plumb of crane and discharge boxes onto the quay and containers onto road transport Pallet boxes forked into new covered warehouse for sorting, empties loaded onto ship for return	12.30 PM in the hold dockers move boxes to pallet hoist and containers to plumb of crane and discharge boxes onto the quay and containers onto road transport Pallet boxes forked into new covered warehouse for sorting, empties loaded onto ship for return	6.10 AM NEXT DAY, using ships crane the ship's crew discharge up to 8 containers onto road transport on the quay or into off island launch and load empties for return, or if RORO all goods driven off slipway and direct to customers' premises.
Sorted boxes unpacked onto road transport or off island launch.	Sorted boxes unpacked onto road transport or off island launch.	
1.30 PM ONWARDS Goods and containers taken to consignees' premises and unloaded	1.30 PM ONWARDS Goods and containers taken to consignees' premises and unloaded	7AM ONWARDS Containers taken on a predetermined round and goods taken to consignees' premises and unloaded in accordance with the container manifest.

DOCKWORK MANNING for cargo handling

ROUTE PARTNERSHIP SCHEME USING BATTERY ROCKS SITE One ship operation.	ROUTE PARTNERSHIP SCHEME USING LONG ROCK SITE One ship operation.	TRYTHALL SHIPPING SCHEME USING LONG ROCK SITE Two ship operation
<u>At Penzance</u> PZ Warehouse, battery rocks site, during day and early AM and late PM to load ship and discharge ship Including passengers' luggage. 3 Transport/ forklift drivers Warehouse to ship AM and PM 2 Safe working dockers team in Ship's hold, including crane driver/ banksman AM and PM 3 <u>At Scilly</u> Ship's hold safe working as above 3 Shore side dockers, including fork driver 3 TOTAL DOCKWORKERS 14	<u>At Penzance</u> PZ Warehouse, long rock site, during day and early AM and late PM to load ship and discharge ship 3 Handling passengers luggage and Transport to/from quay AM and PM 2 Safe working dockers team in Ship's hold, including crane driver/ banksman AM and PM 3 <u>At Scilly</u> Ship's hold safe working as above 3 Shore side dockers, including fork driver 3 TOTAL DOCKWORKERS 14	<u>At Penzance</u> PZ Warehouse at Long Rock during day 3 Handling passengers luggage on the quay during day and Transport drivers to/ from quay and if RORO onto ship 2 Ship's crew work the hold And crane, or if RORO secure containers etc. <u>At Scilly</u> Ship's crew work the hold And crane. Shore side dockers 3 TOTAL DOCKWORKERS 8

NOTES

1. These are manning numbers. Numbers employed will be at least 12% more to cover holidays, sickness and statutory leave.
2. With the RP/ Cornwall Council one ship scheme because of the extended working day, 6AM to 9PM, for health and safety reasons, the ships crew would not be able to work the hold and a separate hold gang is required.
3. With the RP scheme because the ship has to load at PZ in the early morning and discharge late at night, at least 4 of the dockwork gang will have to work split shift overtime which is likely to cost double the normal daywork rates.
4. The capital cost of the RP battery rocks depot and lorry park is about £12 million, the capital cost of the Long rock depot and lorry park is about £3/4 million. Business rates of the RP Battery Rocks scheme will be higher as it is in the high value waterside area, and the maintenance costs of the Battery Rocks site will be high as it is exposed, adjacent to the sea and vulnerable to flooding and storm surges.
5. If a RORO SLV system is used, then all fuel and liquid cargo will be shipped in wheeled tankers that can be driven direct to the customer's premises on St. Mary's

**TYPICAL MANIFEST INVENTORY FOR ONE SAILING PENZANCE/ to St. MARY'S
On one ship system to be loaded by 8.45 AM at Penzance before passengers arrive on the quay and
discharged at Scilly after 1PM when passengers are clear of the working area.**

Four 20 foot containers of general cargo for St Mary's

Two 10 foot containers of general cargo for off islands.

One 10' freezer container with 1 tonne of frozen food

One 10' chilled container with 3 tonnes of chilled food.

15 tonnes of building blocks on pallets

5,000 litres of gas oil for power station

5,000 litres of kerosene (heating oil) for fuel agent

500 litres of unleaded petrol

500 litres of Jet A1 aviation fuel for the airport.

500 Litres of high octane petrol for Skybus.

15 propane gas cylinders

3 cylinders of acetylene gas

4 cylinders of oxygen for the Hospital

2 drums of telone 2 poisonous pesticide, marked highly inflammable, "danger this product can kill if spilt"

12, 20 foot roof trusses.

3 motor cars

1 tractor destined to Tresco (off island)

A horse in a horse box for St Martins

3 camping trailers

6 returning empty insulated fish containers.

2 pallets of fertiliser in plastic sacks, arrived last minute.

2 10' containers of passengers' luggage including 4 bags of second class mail.

TYPICAL MANIFEST INVENTORY FOR ONE SAILING St. MARY'S to PENZANCE

On one ship system to be loaded at St Mary's by 4 PM before passengers embark and discharged after 7.30 PM at Penzance when passengers are clear of the working area.

One 20' container of general cargo

One 20' container of empty beer kegs.

3 empty 20' containers

2 empty freezer/ chilled containers

5 empty fuel bowser tanks

20 empty propane gas cylinders

4 empty oxygen cylinders

2 cows in cowboxes for mainland slaughter house

3 insulated boxes of fresh fish for Newlyn market.

3 10' containers of passengers' luggage for collection by individual travellers, and including 1 bag of second class mail.

1 car (driveable)

2 cars for scrap not driveable

2 10' containers of new potatoes for Covent Garden market.

1 boat in cradles for loading directly on to customer's transport.

11. A note about quay management and congestion.

There are a number of problems with the existing arrangements and usage of Penzance Harbour, which detract from its amenity for tourists, and commercial users. Large parts of the quays and working areas are at present used as dumps for unwanted material and other areas are taken up with parked vehicles and various cabins and sheds. There are ample formal car parking areas nearby and there is absolutely no reason for vehicles to be parked on the quays at any time. A lot of the rubbish and dumped materials are a spin off from the existing cargo handling operations by the Isles of Scilly Steamship Company. This problem could be resolved by assertive management on site. Further clutter is the result of the part time private fettling work carried on by private owners on the many laid up “wrecks” that now litter the floating dock. Similar proper control by the Harbour Authorities would help alleviate the problem.

Conflicts exist because the Shell Shop retail business occupies a key site on the seaward side of wharf road, and invites visitors to cross this busy thorough fare to the unsafe side where there is no footway This building carrying on a business not associated with the working port by its nature impedes the safe use of the North Arm of the Dock, similar criteria apply to the adjacent café that occupies the site of the old dockers’ rest.

Cornwall Council who are now the new Harbour Authority need to resolve this conflict which has been caused in the past by allowing retail outlets to occupy sites so immediately adjacent to the working harbour. There is more suitable and ample space for these businesses to operate from the West side of wharf road at the now closed Trinity House museum. The Harbour Authority should take immediate steps to enter negotiations with Trinity House to facilitate the move of these retail businesses to the safe side of the road and hence permit the commercial port related activities to operate on the North Arm in a much safer and spacious environment. Several years ago Penzance Harbour Authority widened the north arm to facilitate cargo handling and vehicle movements.

On the Albert Pier there is a conflict between leisure use and any potential commercial use. The main conflict arises because The Harbour Authority allows the leisure users to use the pier as a free car park, when in fact the large harbour car park is less than 50 paces away. Again this problem is easily solved by assertive management by The Harbour Authority and issuing authorised users with perhaps free parking vouchers for a set aside area of the harbour car park and increasing the mooring fees accordingly.